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**BEAUTY AND ABUNDANCE**

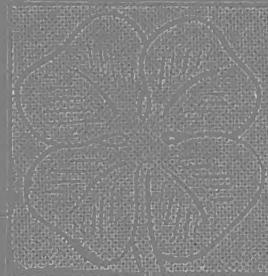
*E 1948*

*from your Own Garden*



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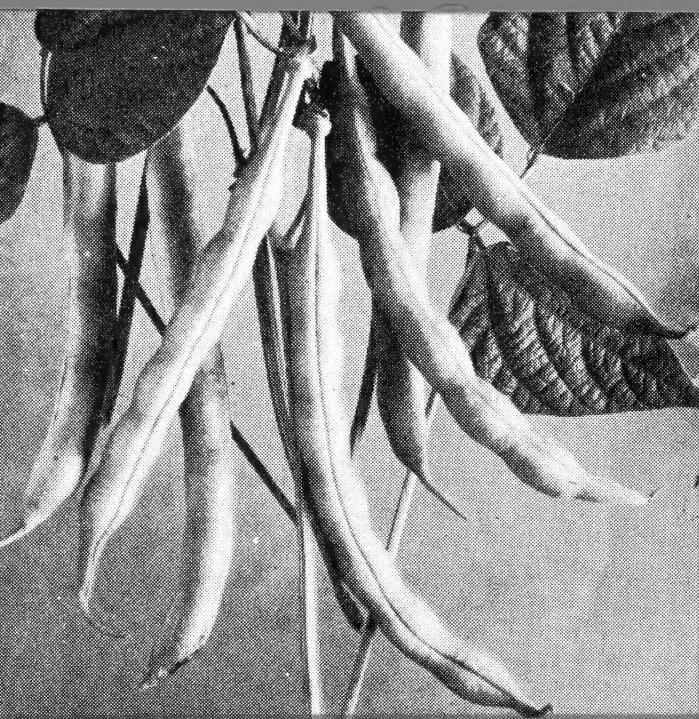
*I'm licking the high cost of living  
... and having fun  
at the same time!*



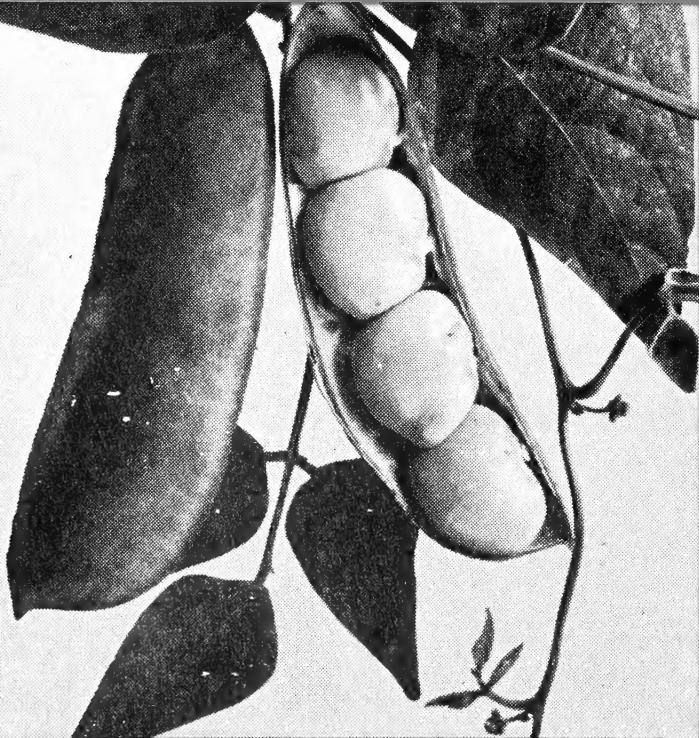
**Bulk Pak**  
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ASPARAGUS



BEANS . . . Blue Lake



BEANS . . . Bush Lima

## ASPARAGUS

**Asparagus** is not a difficult crop. Indeed, it will grow after a fashion almost anywhere, if it does not have to stand in a water-logged or sour spot, but it cannot be cropped quickly, and it requires lots of room. It is for the permanent garden and there, with reasonable care, it will endure for 20 years, providing an attractive green background through the summer months after the cutting season is over.

This crop succeeds best in rich sandy loam, with good underdrainage. Avoid planting near trees, or tall shrubs, which cause excessive shade and take too much fertility from the soil. Set plants at least 20 inches apart, and place them in a permanent location.

Packet, 10c.

## BEANS

No American garden, however small, is complete without a row of beans. They will grow almost anywhere, provided they have warmth with a reasonable amount of moisture and plant food. Under such conditions, and with proper protection from pests, they produce abundantly, and being legumes tend to leave more nitrogen in the soil.

In habit of growth, there are two types: bush, and climbing or pole beans. Many varieties of both are available, some with green pods, a lesser number with wax pods, and of both these, the new and better varieties are stringless. Others are not grown for their pods, but for shelled beans, eaten green when immature or after full growth.

**GREEN POD BUSH.** This is by far the more popular type and the choice of varieties is correspondingly great. A preference may be felt as to the shape and shade of the pods, and of those that are round in section. **Stringless Green Pod** may be ranked first—a hardy and productive variety with light, green, stringless pods. Next would come **Tender Green**.

Packet, 10c;  $\frac{1}{2}$  pound, 25c; pound, 45c.

**Stringless Green Pod** (54 days): Pods 5½ to 6 inches long. Nearly round, slightly curved. Medium green, stringless and fiberless. Seed coffee brown.

**Tender Green** (54 days): Pods 6 to 7 inches long, round, fleshy, stringless, dark green. Seed mottled buff and purple.

**Stringless Black Valentine** (54 days): Pods 6 to 6½ inches, slightly curved. Oval, dark green and stringless. Seed solid black.

**Dwarf Horticulture or Cranberry** (54 days): Pods 5 to 6 inches long. Thick, flat green at early stages, splashed with carmine at maturity. Seed oval, pinkish butt. Spotted and streaked with maroon.

**Broad Windsor (Fava Bean)**: Pods 5 to 6 inches long. Green shell beans, large, flat, light green. Seed reddish brown with black eye.

**Canadian Wonder** (68 days): Pods 7 to 7½ inches long, light green, flat, straight. Not stringless but tender. Seed large, maroon color.

**WAX POD BUSH.** The best of the round-podded type is **Pencil Pod**. Its seeds are black. **Brittle Wax** has white seeds. **Bountiful Wax** is a very thrifty and productive plant with flat oval pods; its seeds are black. **Golden Wax** has white seeds with a little mottling, but is not quite of such good eating quality.

**SHELLING BEANS.** The variety most generally used is **Dwarf Horticultural**. It is also known as **Speckled Cranberry Beans**, which indicates the sort of shell bean it produces. The pods are as good as snap beans if eaten young.

**GREEN POD POLE.** Being a much larger plant, the pole bean can bear many more pods than the low bush. But more space per plant is required, and the providing of poles or other support such as trellis means more work for the gardener. In general, therefore, the bush beans are much more popular. Yet that favorite, **Blue Lake**, well rewards the gardener for his pains by its clusters of long, straight green pods. These are to be picked as soon as they reach full size and not allowed to grow more mature as they then become somewhat fibrous.

**Oregon Giant** is another very popular pole bean with its large, tender, light green splashed with red, pods.

**(Green Pod Pole)**  
**Packet, 10c; ½ pound, 25c; pound, 45c.**  
(except as noted)

**Blue Lake** (65 days): Pods 5½ to 6 inches long, straight, round, dark green and stringless. Seed white.

**Oregon Giant Green Pod** (65 days): Pods large fleshy 10 to 12 inches. Stringless light greenish splashed with deep red.

**Packet, 10c; ½ pound, 30c; pound, 55c.**

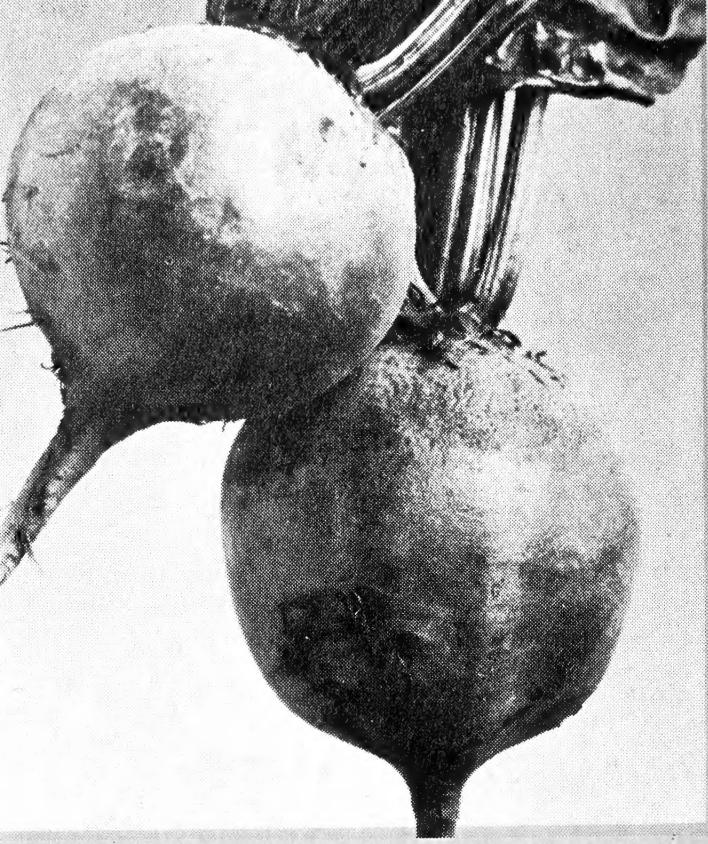
**Kentucky Wonder** (65 days): Pods 8½ to 9 inches long, round, curved and silver green in color. Seed buff and brown.

**Tall Horticulture** (70 days): Pods 7½ to 8 inches long, oval, straight and dark green when young. Seed buff splashed with red.

**WAX POD POLE.** This type is little grown and the pods are not usually of such good quality as the bush wax varieties. **Kentucky Wonder Wax**, the best known of the varieties, is brown-seeded; **Golden Cluster** is white-seeded and sometimes saved for dry beans after its pods pass the edible stage.

**LIMA BEANS** are even more intolerant of cold and take longer to ripen. In sowing, the seed of the larger bush varieties are usually set a little farther apart—three to four inches—and probably two plantings will be sufficient. The seeds are to be set with the eye down and there should be enough soil moisture to induce germination.

The **bush variety** Limas include **Fordhook Bush**, which is perhaps the best one; second, the Baby Lima, known in the South as a butter bean, of which **Henderson's Bush** is the best known. Its beans are small, green when young, but at later stages both green and white beans occur. For a **pole variety**, the **Oregon Pole Lima** is best adapted to our Northwest climate. A vigorous grower, pods at their best when turning yellow. The seeds are white, plump and oval.

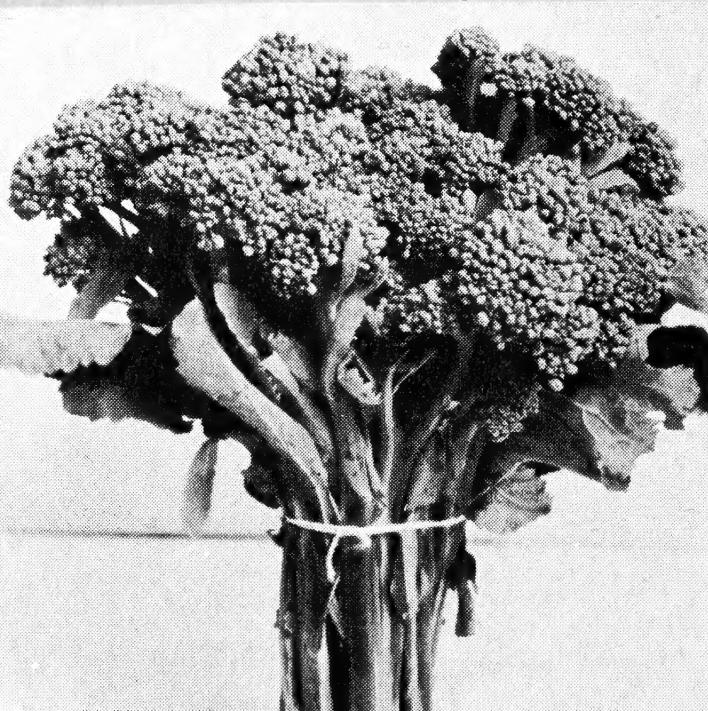


**BEET . . . Detroit D. Red**



**CABBAGE . . . Early Jersey**

**BROCCOLI . . . Italian**



## **BEETS**

While beets will grow in any average, properly drained garden soil, they must be grown quickly if the roots are to be tender and succulent. The soil should, therefore, be well prepared, so as to provide adequate moisture and plenty of plant food.

Beets may be sown as early as the ground can be made ready. Eighteen inches apart is a satisfactory separation for the rows though they can be three or four inches nearer if space is limited. Early spring planting should be to a depth of approximately  $\frac{1}{2}$  inch. In summer, for late beets, it may be as much as 2 inches in order to secure moisture. It is recommended to make staggered plantings every two weeks, so as to assure tender, young roots throughout the summer. When seedlings are about three or four inches tall, they should be thinned to approximately 4 inches between plants in the row.

**Varieties.** Probably the best early globular beet is **Market Gardener**, requiring 7 to 8 weeks, and preceding the well-known **Detroit Dark Red** by about ten days. Both of these are first class for either table use or canning, being of good shape and dark color. A packet of seed will sow about 30 feet of row, one ounce will sow approximately 150 feet. **1/2 ounce, 15c; ounce, 25c. Also Packets.**

**PSC Gardener** (45 days): Roots deep red, globe shaped.

**Detroit Dark Red** (55 days): Globe shaped, uniform in size.

**Early Blood Turnip Beet** (55 days): Tops large, roots nearly round.

## **MANGEL WURZEL**

Commonly known as stock beets, this vegetable makes excellent fresh feed for cattle. Seed should be planted early in the spring in rows  $2\frac{1}{2}$  feet apart, and plants thinned to 10 inches apart in rows after seedlings are up. One ounce of seed plants approximately 100 feet, and 5 pounds to the acre.

**Heavy Cropper** is the most popular of this vegetable, producing large yellow mangels that are easily pulled as it grows

two-thirds above the ground. **Half Sugar Mangels** double the yield of sugar beets with large smooth, creamy white roots.  
**1/2 ounce, 15c; ounce, 25c; 1/4 pound, 75c.** Also Packets.

expected that each will produce a quart of sprouts if all goes well. A packet of seed will suffice the average garden.

**Packet, 10c; 1/2 ounce, 40c.**

## CABBAGE

**Cabbage is not difficult to grow.** It is useful in succession cropping. It is welcome in the kitchen, and it is one of the staple health foods, rich in vitamins, particularly in C, and also in minerals.

Cabbage is naturally a cool weather plant, but it is hardy and will tolerate considerable differences of temperature, provided it has an adequate supply of moisture. It produces best with an abundance of sunshine and an ample supply of plant food, especially nitrogen and potassium.

The many varieties of cabbage may be arranged in three groups, Early, Mid-season, and Late, of which the first is the most important. The Mid-season and Late varieties are only planted where ample space can be given over a long season.

**Packet, 10c; 1/2 ounce, 40c; ounce 75c.**  
(except as noted)

Among the early sorts, **Early Jersey Wakefield**, a little pointed cabbage, long led the field, but has now been largely superseded by **Golden Acre** which is just as early, about two months from transplanting, and **Copenhagen Market**, both globe shaped, very solid and neat.

**Early Jersey Wakefield** (63 days): Head small, compact, conical, short stem.  
**Packet, 10c; 1/2 ounce, 30c; ounce 50c.**

**Copenhagen Market** (70 days): Heads small, round and solid.

**Golden Acre** (64 days): Heads small, round. Plants dwarf.

**Early Flat Dutch** (90 days): Heads flat, solid and very large.

Of the late cabbages, which take about 4 months from transplanting, there are two types, the round, best typified by **Danish Ball Head**, and the flat, best known in the old late **Flat Dutch** variety. These are both large heads, weighing about 6 pounds, solid and more suitable for storage through the months of winter than the quicker growing varieties.

## BROCCOLI

**Two very distinct members** of the cabbage group are known as Broccoli. One is the old fashioned **Cauliflower Broccoli**, really a very late maturing Cauliflower, the other described variously as **Sprouting** or **Italian Broccoli**. It is one of the oldest of cultivated vegetables, long known in America, but so infrequently grown in gardens, it is often referred to as new. It is now rapidly gaining in the popularity it merits. Even in the kitchen, it is kind, for no disagreeable odor arises from its cooking, such as informs the whole household when Cauliflower or Cabbage is on the menu.

Like Cauliflower, **Sprouting Broccoli** is a plant of cool and moist conditions of growth. Seed is best started indoors about six weeks before the frost is expected to be out of the garden and handled in flats or frames just as cabbage or cauliflower would be. One packet will afford sufficient seed for even a large family garden.

Transplanting takes place as soon as possible to rows 30 inches apart, or somewhat nearer if space is limited; the plants being set two feet apart in the row. The heads should be ready about 60 days later.

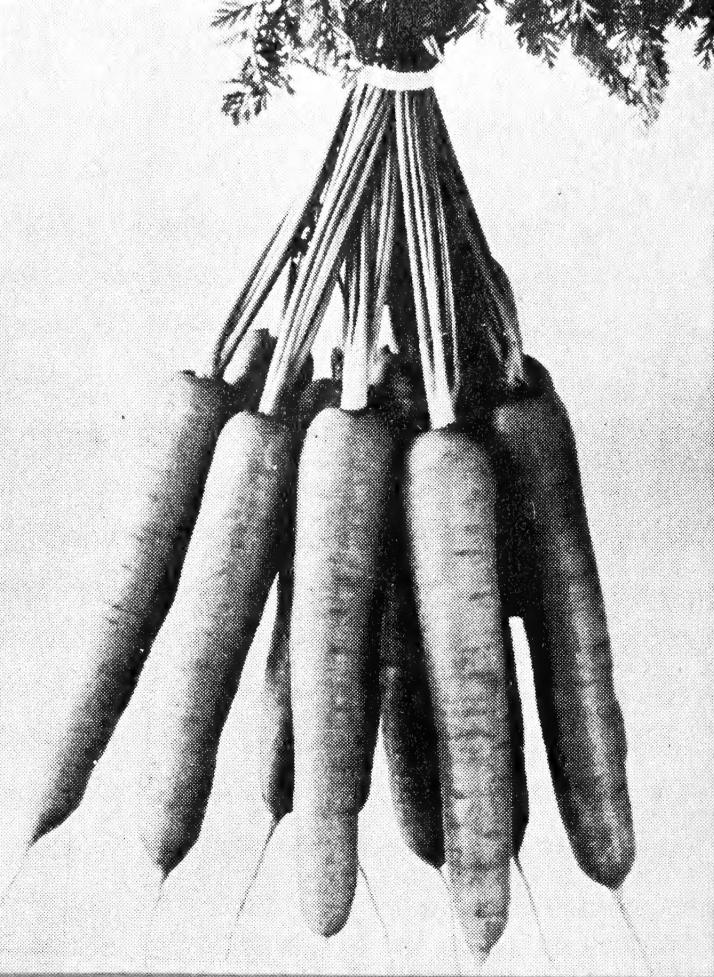
**Italian** (102 days), **Packet, 10c; 1/2 ounce, 45c.**

**St. Valentine** (140 days), **Packet, 10c; 1/2 ounce, 65c.**

## BRUSSEL SPROUTS

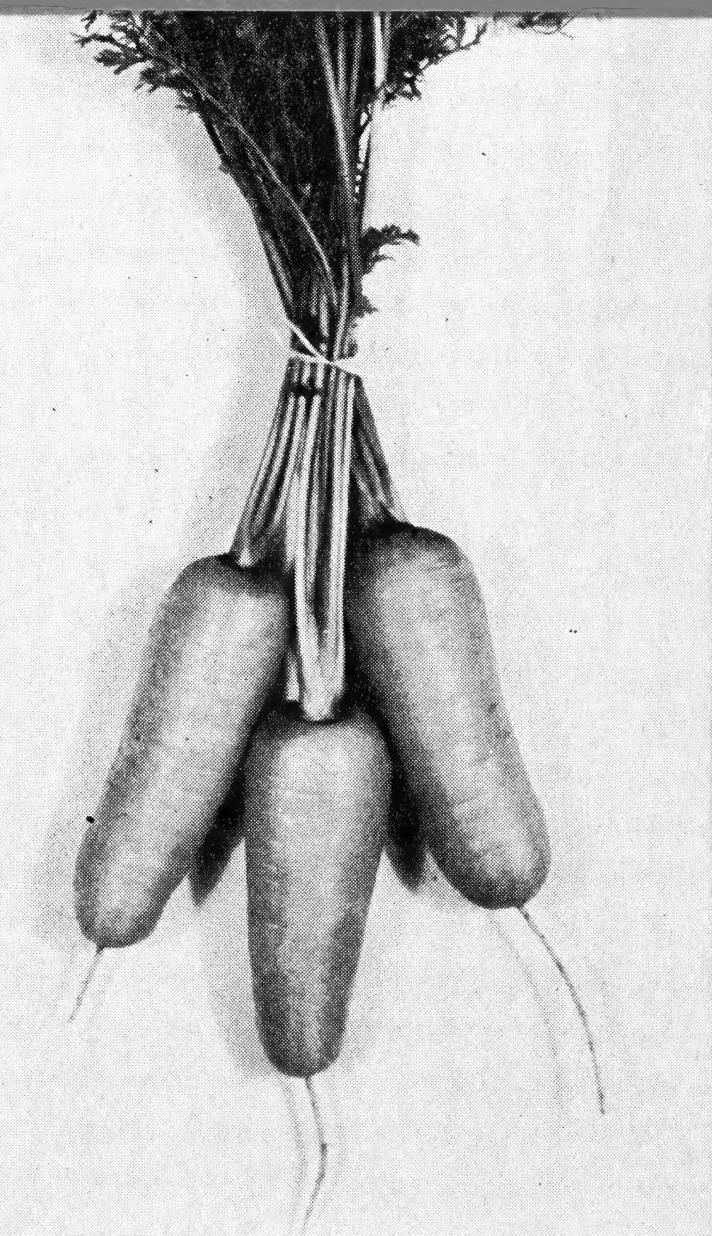
**There are those** who swear by Brussel Sprouts and those who swear at them. One reason for lack of success is failure to appreciate the fact that this is a cool weather vegetable, which takes about three months to mature.

Brussel Sprouts are sown and grown as would be late cabbage. In estimating the number of plants to raise, it may be



CARROT . . . Imperator

CARROT . . . Danvers



**Danish Ball Head** (203 days): Heads round, very hard and crisp.

**Savoy** (95 days): Heads round. Leaves coarsely crumpled.

**Red Stonehead** (100 days): Heads round. Color purplish red.

**Celery Cabbage** (75 days): Heads cylindrical tapering, green.

## CARROTS

The most popular vegetable of the garden is the carrot. No other vegetable gives so much in return for so little work expended. Then, too, this vegetable finds many uses in the kitchen where it can be served either raw or cooked, and with almost any type of meal. There are three types best suited for the average home garden, and it is merely a matter of personal likes in making your selection. The long slender type, popular with commercial growers, is known as the **Imperator** and does very well in home gardens, providing the soil is not rocky. The medium sort, cone-shaped **Chantenay**, is very useful for planting in heavier soils. Also in this group is the **Danvers Half-Long**, which is similarly conical, but longer. The third type, and one of the most popular, is the cylindrical **New Coreless**, or **Nantes Carrot**, which is a genuine stump-rooted variety, solid and uniform in size.

Seeds should be planted in successive sowings, about two weeks apart, in order to have young carrots always coming on. Rows should be 15 inches to 18 inches apart, and the carrots should be thinned to about 4 inches apart in the row. If the soil is not rich, apply a complete commercial fertilizer at the rate of 10 pounds per 100 foot row. Two or three packets of seed is required for a family of 5. One ounce of seed will plant a row 100 feet long.

**1/2 ounce, 20c; ounce, 35c. Also Packets.**

**Imperator** (77 days): Roots  $7\frac{1}{2}$  to 8 inches long with sloping shoulders, smooth, deep orange. Uniformly tapered to blunt end.

**PSC Coreless** (70 days): Stump-rooted type. Longer than other types. Crisp, solid and uniform in size and color.

**Danvers Half Long** (75 days): Medium length tapering to blunt point. Good color and fine quality. Sweet, crisp and tender.

**Improved Chantenay** (72 days): Roots  $5\frac{1}{2}$  to 6 inches long. Deep orange, smooth tapered, stump rooted.

**Long Orange** (68 days): Heavy cropping variety, 11 to  $11\frac{1}{2}$  inches long.

**Oxheart** (72 days): Roots  $4\frac{1}{2}$  to 5 inches long. Bright orange, blunt end.

## CAULIFLOWER

This epicurean vegetable is esteemed by many connoisseurs as the best of all the cabbage tribe. It is more difficult to grow than any other plant of the cabbage family, and like most of them, will not stand heat or drouth, which limits its culture to areas free of these conditions. The ideal soil for cauliflower is very fertile and moist, but well drained. Good preparation and enrichment are therefore necessary, and especially on sandy soils, humus will be incorporated to good advantage.

It is best to start seed in flats or frames, the same as for cabbage, transplanting to their permanent spot in the garden after the danger of frost is passed. The distance between plants should be 2 feet, with approximately 3 feet between the rows. Twenty-five plants will probably be enough for a family of 5. A packet of seed is ample in most cases.

**Mt. Hood Snowball** is the best early variety for this section of the country, having pure white, fine quality heads of medium uniform size. **Earl Snowball** is another popular variety, which produces medium to large round heads that are pure white when blanched.

Packet, 10c;  $\frac{1}{4}$  ounce, 65c;  $\frac{1}{2}$  ounce, \$1.25.

## CELERIAC

This type of celery does not produce edible stalks, but instead a bulbous base of about 3 inches in diameter, very useful in the concoction of celery soup, or celery sauce. It is also an excellent vegetable in its own right when served in the manner of turnips, or sliced thinly into a salad bowl. It is raised in the same manner as celery.

Packet, 10c;  $\frac{1}{2}$  ounce 40c.

## CELERY

Celery is such a fastidious plant, and demands so much from the garden, that under ordinary circumstances, its production is better left to specialized commercial growers. Briefly, the conditions for celery growing are a light soil, full of humus and fertilizer, continuous moisture and persistent attention of the gardener.

**Golden** self-blanching is probably the best all-around early variety and **Utah**, which is the standard pascal type, is recommended for the late crop. A packet of seed will produce ample plants for an average family.

Packet, 10c;  $\frac{1}{2}$  ounce, 40c; ounce, 75c.

## CHICORY

One of the easiest vegetables to grow and one of the most rewarding through the following winter is the chicory known as witloof, which is to say white leaf. It is delicious in salads when used as Endive or Coos Lettuce with French Dressing. The leaves and stems blanch easily. Sow the seed thinly in the row, cover it lightly, and firm it down. Restraine the weeds until the chicory is big enough to smother them. Thin the plants to six inches apart when three or four inches high, using the thinnings either to extend the row or to be boiled for greens. A packet of seed will easily plant a twenty-five foot row, which is ample for the average family.

Packet, 10c.

**Witloof:** Type grown for greens. Leaves and stems blanch easily.

**Large Rooted:** Roots of this plant used as coffee substitute.

## CORN

Sweet Corn is a backbone crop for every home garden. It can successfully be grown in almost any State in the Union. However, for best results, it requires a growing season of seventy to eighty days with plenty of summer heat. In marking off the plot for corn, it is well to remember that the formation of kernels depends on efficient pollination, and, as the pollen is diffused by air, a long single row is less likely to be well pollinated than several short rows in a block.

Four rows of twenty-five feet are therefore better than one long row of a hundred feet, and the corn may alternatively be set in hills, or groups, of three plants each, with three feet between hills. Rows are best, but hills make weeding easier.

Corn needs fertile soil, well drained but retentive of moisture, and if an old rotted manure or compost pile is available, the corn plot is a good place to use it. Or a complete fertilizer of such analysis as 4-12-4 or 5-6-8, on average loam soil, may be worked in at the rate of about seven pounds to a hundred foot row. This preparation should be done as soon as the frost is well out of the ground, a week or two before the seed is sown.

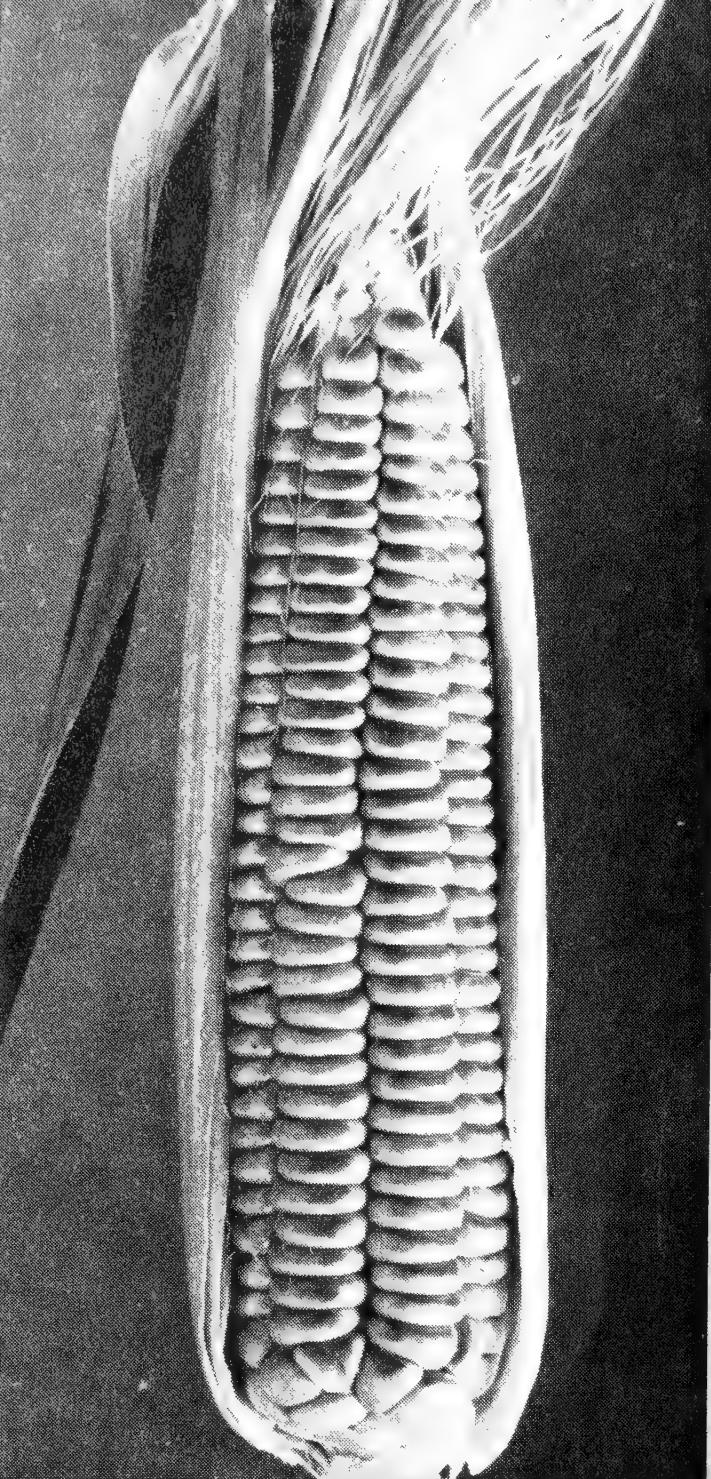
**Varieties.** For wide adaptability to the growing conditions of different areas combined with yield and quality, **Golden Cross Bantam** is at present the best sweet-corn hybrid. It is a strong-growing midseason type, resistant to wilt, with large yellow ears of excellent eating quality. Some of the other popular hybrids that are popular with many gardeners are the **Marcross**, **Bancross**, and **Spancross**. In most sections, these varieties produce earlier corn, but the ears are smaller.

Among the open-pollinated varieties **Golden Bantam** and **Improved Golden Bantam** are still the favorites.

**YELLOW VARIETIES.** Packet, 10c;  $\frac{1}{2}$  pound, 20c; pound, 35c.

**Golden Bantam** (78 to 80 days): Ears 7 to 8 inches long with 8 rows of kernels. Excellent for early planting.

**Improved Golden Bantam** (80 to 82 days): Ears 6 to 8 inches long with 10 to 14 rows of kernels to the ear. Light yellow color, best midseason variety.



CORN . . . Gold Bantam



CORN . . . Cross Bantam

**Golden West** (68 to 70 days): Ears 6½ to 7 inches long, 10 to 12 rows of fairly broad yellow kernels.

**Early Sunshine** (72 to 76 days): Ears 6½ to 7 inches long with 10 to 12 rows of kernels. Good early market variety.

**YELLOW HYBRID.** Packet, 10c; ½ pound, 25c; pound, 45c.

**Golden Cross Bantam** (83 to 85 days): Ears 7½ to 8 inches long with 10 to 14 rows of kernels, medium in width and depth. Rich yellow color.

**Bancross** (68 to 70 days): Ears 7 to 9 inches long. 8 to 12 rows of deep yellow kernels. Excellent quality for garden or market.

**Lincoln** (82 days): Ears 8 inches, 14 to 16 rows of medium narrow kernels. Produces large, early ears. Market gardener variety.

**Spancross** (66 days): Medium size ears 6 to 7 inches long. 12 rows of uniform, yellow kernels. Extra early and wilt resistant.

**WHITE VARIETIES.** Packet, 10c; ½ pound, 20c; pound, 35c.

**Stowell's Evergreen** (95 to 100 days): Ears 8 to 9 inches, 16 rows of deep, white kernels. High yielding variety excellent for canning.

**Oregon Evergreen** (80 to 85 days): Ears 7½ to 8 inches, uniform medium to large ears with 12 to 15 rows. Good freezing variety.

## CRESS

Sometimes known as pepper-grass. A quick-germinating, quick-growing plant with finely curled bright green leaves, daintier in appearance than mustard and a little sharper in its pleasantly pungent flavor, which is not nearly so robust as that of water cress. Sow two or three feet at a time in the open row at the first working of your garden and repeat weekly.

Packet, 10c; ½ ounce, 15c; ounce, 25c.

## CHIVES

The famous Schnittlauch . . . highly prized for flavor. Best to start seed indoors, transplanting to the open garden after spring frosts have passed. Sow seed thickly so as to form a clump of young plants. Plant entire clump as one plant. Packet of seed ample for the average family needs. Packet, 10c; ½ ounce, 60c.

## SWISS CHARD

Chard would be better known and more highly appreciated if it were more frequently on sale, but it is essentially a vegetable for the home garden, as it is ill-adapted to shipping, in addition to the fact that the leaves are gathered singly, and not the whole plant. The plants are cultivated like beets, except they should be thinned to eight to ten inches apart. There are several green varieties, the best being **Lucullus** with crumpled yellowish green leaves and **Broadtail** green chard. Packet, 10c; ½ ounce, 15c; ounce, 25c.

**Rhubarb Chard** a new variety that looks like rhubarb. The leaf stocks are a bright delicate translucent crimson. This rich color extends through the veins into the dark green leaves. It has a delicious flavor and is easily grown in most all types of soil and climatic conditions.

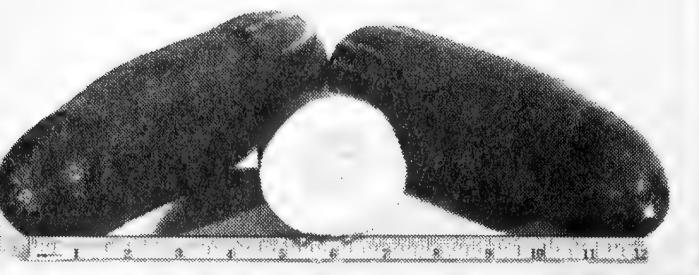
Packet, 10c, ½ ounce, 25c; ounce, 40c.



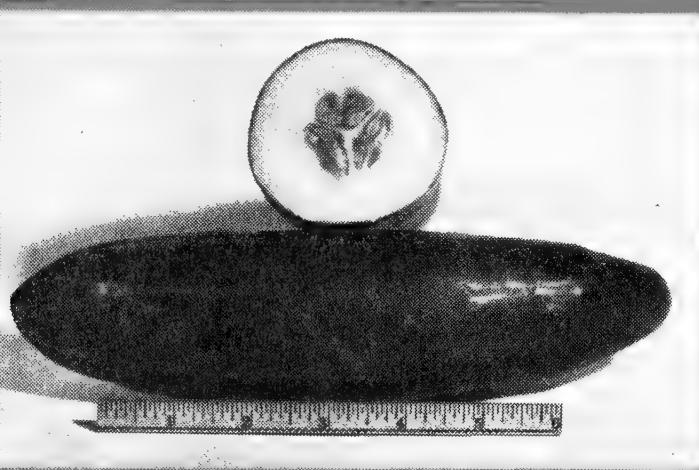
Just place a few piles of META Slug Bait through your garden.

You'll be amazed at the number of dead ones you'll find the next day.  
3 lbs., 75c

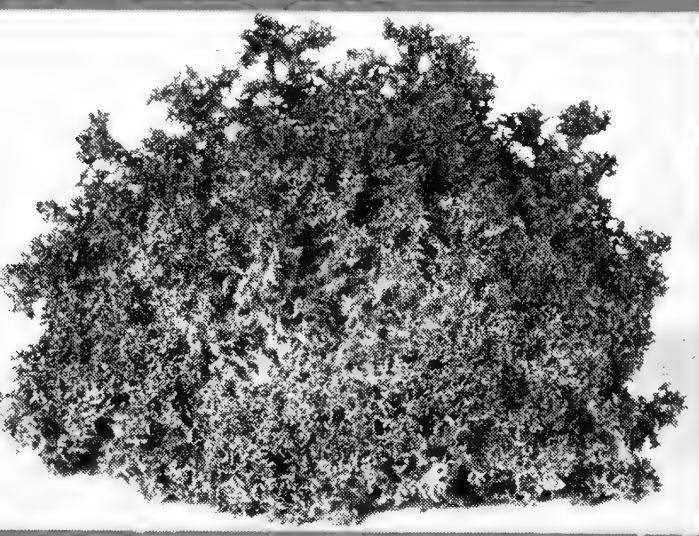
# META Kills Slugs



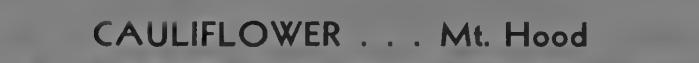
CUCUMBER . . . Cubit



CUCUMBER . . . White Spine



ENDIVE . . . Double Curle



CAULIFLOWER . . . Mt. Hood



## CUCUMBERS

Cucumber vines sprawl over so much territory that they are not admissible to the small garden.

The usual method of growing cucumbers is in hills about five feet apart each way, planting six seeds to the hill, and the best three plants from these left to grow.

Cucumber is a warm-weather crop and the sowing is not done until danger of frost is past. Because transplanting is difficult, seeds are rarely sown indoors but may be started on a piece of upturned sod or in bottomless bands. Four or five hills should afford enough cucumbers for the average family.

**Varieties.** Cucumbers are grown either for slicing or pickling. For slicing **Cubit** is a prolific white-spined variety, distinguished by unusually uniform dark green exterior color, and a long blunt end. Another popular variety is **Diamond Long-Green**, which is outstanding for its large size, fruits reaching  $10\frac{1}{2}$  inches to 11 inches in length. The third, an old standby of the slicing type of cucumber, is **Improved White-Spine**, which is one of the earlier types of large cucumbers.

For pickling, **Boston Pickling** is still the most popular variety, although many gardeners have other preferences.

**1/2 ounce, 20c; ounce, 35c. Also Packets.**

**Diamond Long Green** (65 to 67 days): Fruits  $10\frac{1}{2}$  to 11 inches long. Deep green, straight, slightly tapered, flesh very white.

**Cubit** (68 to 70 days): 8 to 10 inches long. Long, blunt cylindrical shape. Dark green exterior color. Small seed cavity.

**Improved White Spine** (60 to 62 days):  $7\frac{1}{2}$  to 8 inches long. Slim, symmetrical, dark green fruit. Heavy yielder.

**Boston Pickling** (55 to 57 days): Fruits  $5\frac{1}{2}$  to 6 inches, medium green and slightly tapered.

**Davis Perfect** (65 to 67 days): Excellent market type. Fruit 9 to  $9\frac{1}{2}$  inches long, dark green and evenly tapered at both ends.

**Colorado** (68 to 70 days): Fruits  $8\frac{1}{2}$  to 9 inches long. Very dark green and tapering at stem end. Small seed area.

**Snows Pickling** (56 to 58 days): Early, prolific canning type. Fruits 6 to  $6\frac{1}{2}$  inches, dark green with distinctly square ends.

**Lemon** (65 to 68 days): 3 to  $3\frac{1}{2}$  inches in diameter. Nearly round. Rich yellow lemon color, crisp and well flavored.

**Gerkin** (60 to 62 days): Grown only for pickling. Pale green, oval and uniform in size.

## DILL

An herb that is often grown along with cucumbers, has a seed as well as the herbage, which are essential in the making of dill pickles. A packet of seed will supply enough plants for the average family requirements.

**1/2 ounce, 15c; ounce, 25c. Also Packets.**

## ENDIVE

Grown as a salad herb in its own right and by some as a substitute for lettuce in summer weather, is most frequently used in late fall and early winter. It is a hardy plant unharmed by a little frost. It is grown the same as lettuce.

**1/2 ounce, 20c; ounce, 30c. Also Packets.**

## EGG PLANT

Egg plant must have summer weather and lots of it. For it is a warm-weather slow-maturing species. **Black Beauty** is a standard variety, bearing four or five large purplish-black fruits of more or less globe shape. Lighter in color and longer in shape is **New York Improved**.  
**Packet, 10c; 1/2 ounce, 35c; ounce, 65c.**

**Black Beauty** (83 days): Extra early. Deep blackish-purple.

**New York** (90 days): Leading market variety. Large and productive.

## KALE

A plant that should be more extensively cultivated, both for beauty and because it stands in the highest rank in regard to vitamin and dietetic value. When the rest of the garden begins to suffer dilapidation in the fall, the kale stands and provides the best of greens after frost has laid other plants low.

Kale requires the same cultural care as cabbage. When mature, the whole plant is not cut; leaves are taken as required, from the bottom, and they should not be allowed to grow so old as to be fibrous and tough. **Dwarf Green Curled** is the most extensively grown, and by far the best for Northwest gardens.

**1/2 ounce, 10c; ounce, 20c; 1/4 pound, 60c. Also Packets.**

**Dwarf Green Curled** (55 days): Thickly curled brilliant green leaves. Plants grow about 8 inches in height.

**Emerald Isle** (55 days): Grows to medium height and exceedingly hardy.

**Tall Green Curled Scotch** (60 days): Grows 2 feet high. Dark green heavily curled leaves.

**Cow Kale or Thousand Headed** (40 to 50 days): Grown only for stock feed.  
**1/2 ounce, 10c; ounce, 15c; 1/4 pound, 45c.**

## KOHLRABI

An odd looking vegetable that is cooked and served as turnips.

Kohlrabi is a hardy vegetable, unharmed by light frost, and better able to withstand drought than turnip. Its quality is much better, however, when it makes rapid growth, and for this reason the soil should be rich and moderately moist.

**White Vienna** is the variety generally grown, but some gardeners prefer **Purple Vienna** as it is thought to swell a little larger before beginning to get woody and tough. Seed is sown in the same manner as turnip, and growing habits follow the same pattern. However, plants should be thinned, at least, six inches apart.

**Packet, 10c; 1/2 ounce, 30c; ounce, 50c.**

**White Vienna** (55 days): At its best when bulbs are 2 inches in diameter.

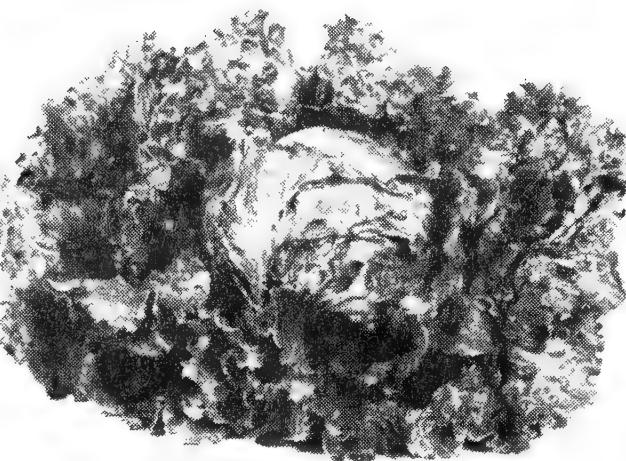
**Purple Vienna** (62 days): Plants are small with dark green leaves.



GO AFTER THE  
BUGS AND  
GIVE YOUR  
GARDEN A  
CHANCE TO  
REALLY  
PRODUCE

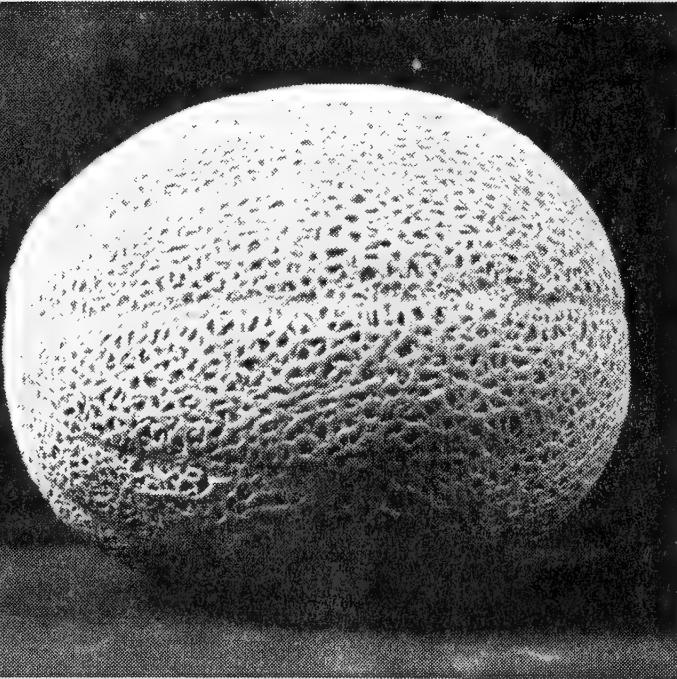


**LETTUCE . . . Grand Rapids**



**LETTUCE . . . Great Lakes**

**MUSKMELON . . . Heart O' Gold**



## **GROW A GARDEN**

**FOR GOOD HEALTH . . . GOOD  
LIVING . . SECURITY . . RECREATION**

## **LEEK**

A mildly flavored member of the onion family, is little known in American gardens, but esteemed by those who know its blanched stems as a valuable constituent of soups and stews, or served in the same style as asparagus. It is a very hardy plant, and, where frosts are not severe, may be left in the garden all winter.

Seed is sown in the early spring in the same manner as onions. Plants should later be thinned to from six to nine inches apart. A packet of seed is ample for the average family.

**Packet, 10c;  $\frac{1}{2}$  ounce, 55c; ounce, \$1.00.**

## **LETUCE**

One of the first crops on the home gardener's calendar, lettuce is too often also one of the first to disappoint him. It is not difficult to raise successfully if these fundamental facts are borne in mind and operations conducted accordingly:

Salad crops to be crisp must be grown quickly, so the soil should be rich in plant food. Lettuce has a poor root system, therefore this plant food must be readily available in the upper surface of the soil.

It is essentially a cool-weather plant, unharmed by light frost but rarely withstanding summer heat, and is to be sown, or set out, as soon as the ground can be worked.

Dress the top two inches of soil with a complete plant food at the rate of ten pounds to a 100 foot row, about one week in advance of setting out plants or planting seed.

**Leaf Lettuce** is the best type for the small home garden. These plants form a loose head of large frilly, wavy leaves, of which a few at a time are cut and are later replaced by new growth. This type is labor-saving for the gardener. In addition it is higher in vitamin content than the head type. **Oak Leaf** is rapidly becoming the most popular variety. However, many gardeners prefer **Grand Rapids**, or **Prize Head**. Both are of fine quality.  
**1/2 ounce, 25c; ounce, 40c. Also Packets.**

**Oak Leaf** (40 days): Withstands hot weather without turning bitter. Leaf is shaped like its name. Are small, tender and deep green in color.

**Grand Rapids** (45 days): Plants erect, compact, leaves light green, curly and heavily fringed.

**Prizehead** (47 days): Plants medium size, crisp and tender. Color light reddish brown on a medium green base.

**Simpson's Early Curled** (45 days): Leaves are large, crumpled and frilled on the edges. Color yellowish green.

**Head Lettuce.** The type grown by commercial growers, and most popular with home gardeners. Head lettuce should be started indoors in flats and later transplanted to the open garden, after the danger of frost is passed. This transplanting is also important in the forcing of plants into heading. **Great Lakes** is a newer variety that is rapidly becoming the most popular with home gardeners.

**New York, or Iceberg type**, the favorite of commercial growers, is also planted extensively by home gardeners.

**Great Lakes** (75 days): Very resistant to tip burn and withstands summer heat. Excellent for local markets.

**PSC Crispette** (80 days): Large, firm and crisp heads. Leaves are bright green and slightly durly.

**New York** (80 days): Heads are well blanched, sweet and tender. Pioneer of long distance shipping variety.

**Hanson** (85 days): Heads are large, globular, compact. Light yellowish green in color. Good for mid-summer planting.

## MELONS

**Melons are only for the large garden** and the determined gardener who will give his vines the cultural attention they require from the outset, and will fight insects that might attack them. A long, sunny, hot season, with dry atmosphere, but sufficient soil moisture is required for good crop results. A light but well-manured soil, with mildly acid reaction, is also advantageous.

Seed should be sown in hills that are five or six feet apart each way, with approximately three plants to the hill. In the early season it is advisable to protect the young plants with hotcap paper covers until the vines begin to run.

**WATERMELONS.**  $\frac{1}{2}$  ounce, 15c; ounce, 25c. Also Packets.

**Klondike** (80 days): Large, oblong, slightly tapering and solid dark green. Flesh bright dark red. Seed small black.

**Striped Klondike** (80 days): Shaped same as Klondike. Irregular dark green stripes on lighter background. Flesh deepest red of all melons.

**Black Seeded Ice Cream** (85 days): Fruits small, nearly round, creamy white with faint irregular pale green stripes. Flesh deep red, very firm and fine quality. Best for most home gardens.

**Kleckley Sweet** (85 days): Fruits large, cylindrical, dark bluish green with thin rind. Seed creamy white, trace of brown.

**MUSKMELONS.**  $\frac{1}{2}$  ounce, 15c; ounce, 25c. Also Packets.

**Hearts of Gold** (90 days): Fruits nearly round, distinctly ribbed, deep green, flesh very thick and deep salmon color. 3 to  $3\frac{1}{2}$  pounds.

**Hale's Best** (80 days): Exceptionally thick, deep salmon colored flesh. Fruits 3 to 4 pounds.

**Banana** (98 days): Fruits smooth and slender. Creamy yellow exterior. Flesh salmon color with banana-like flavor. 5 $\frac{1}{2}$  to 6 pounds each.

**Persian** (100 days): Very large melon with slightly ribbed skin. Fruit light orange in color. Very sweet.

**Honey Dew** (100 days): Large almost round melon with very light skin. Flesh pink or flesh green meat depending on variety.

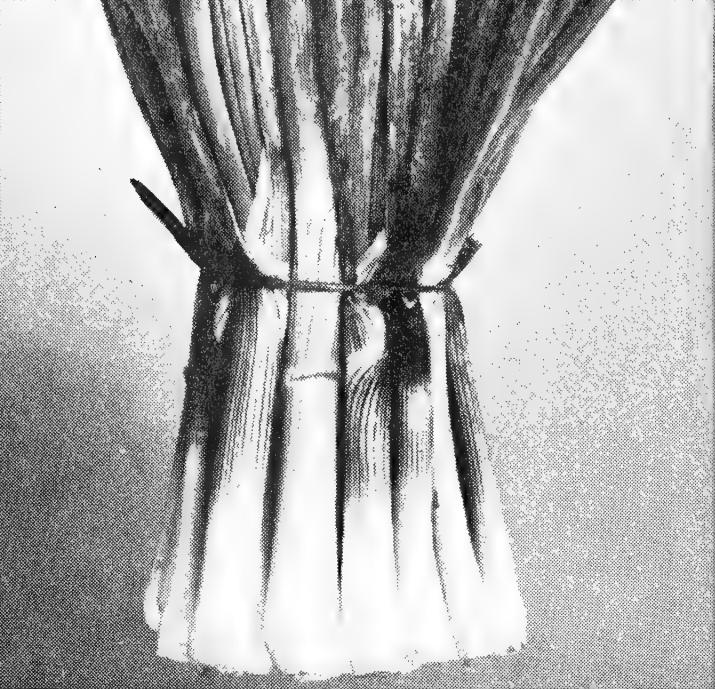
**Casaba Golden Beauty** (78 days): Wrinkled, bright golden yellow skin. Fruits globular shaped and mature early. Flesh is white.

## MUSTARD

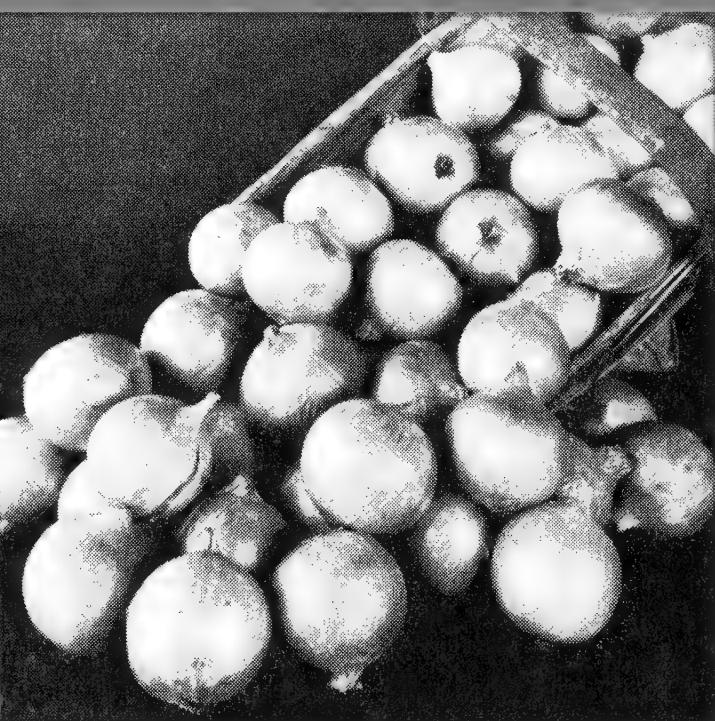
The popular "Greens" of the South, and a vegetable that should be encouraged for Northern gardens, as it is extremely hardy, and the foliage when cooked like spinach presents a tasty dish that pleases the most particular taste.

The variety chiefly grown is **Southern Giant Curled**. Seed is sown in the garden a little at a time in the spring and fall; seedlings coming up quickly and are thinned to stand about three inches apart. When the plants are four inches high, they may be cut for salads, and when they have reached a growth of six inches, or more, they are excellent for cooked greens. A packet of seed will supply enough for the average garden.

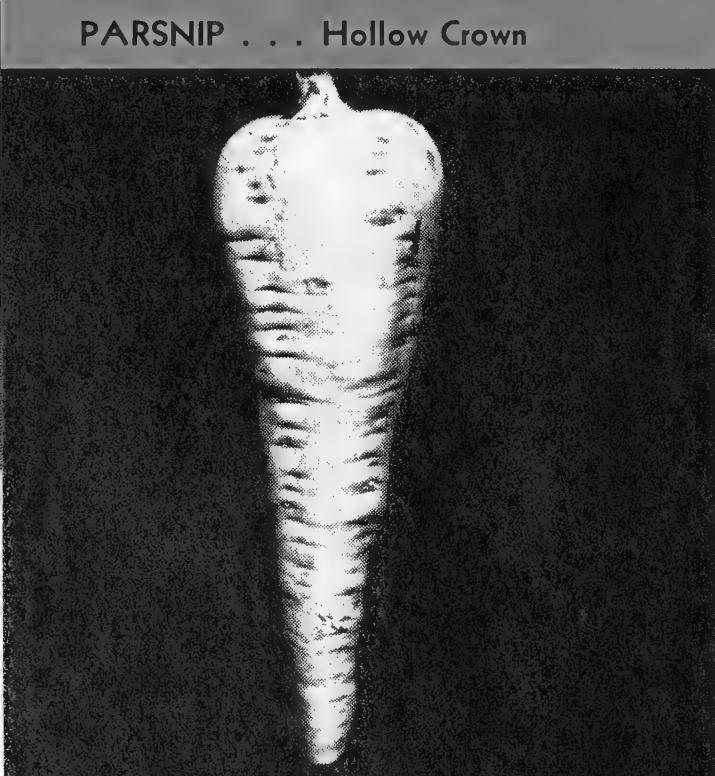
$\frac{1}{2}$  ounce, 15c; ounce, 25c. Also Packets.



ONIONS . . . White Bunching



ONIONS . . . Yellow Danver



PARSNIP . . . Hollow Crown

## OKRA

**Another familiar plant** of the Southern gardens, and not too well known in the North. It is very easily grown and has ornamental value for your vegetable garden. The long pods are used, either green or dried, in stews and gumbo type soups. They may also be served as a vegetable when picked young and tender. The Dwarf Green variety is the most popular for home gardeners. A packet of seed is ample for the average family.

**1/2 ounce, 15c; ounce, 25c. Also Packets.**

## ONIONS

**Onions are found in most American gardens**, though results are often disappointing, because cultural requirements have not been given sufficient attention. Particularly in the matter of weeding. The soil should be worked into fine tilth without clods, stones, etc., to a depth of about six inches and well enriched. Either well rotted manure or commercial fertilizer may be used. If manure is selected, be sure that it is well rotted.

**Early onions** are best grown from sets. **Later onions**, and particularly those intended to be kept in winter storage, may be raised from seed sown in the open. Scallions, or bunching onions, eaten when young and fresh, are successfully grown from seed.

The best green onion variety is **White Bunching**. **Oregon Yellow Danvers**, and **Sweet Spanish**, are the most popular large globular onions.

**Packet, 10c; 1/2 ounce, 40c; ounce, 75c.**

**Oregon Yellow Danver** (110 days): Bulbs three-quarter globe shape. Dark yellow skin, white flesh. Excellent for storage because of hard skin.

**Australian Brown** (100 days): Bulbs semi-globe. Chestnut brown, tough, tight filling skin. Flesh creamy white.

**Southport White Globe** (110 days): Bulbs round, medium sized, firm and pure white. Thin skin, fine grained, waxy white flesh.

**Sweet Spanish** (110 days): Large globular onion, with golden yellow skin. Flesh is white, mild and very sweet.

**White Bunching** (30 to 40 days): Best for green onions. Young sprouts are crisp and mild, attaining good size before bulb is formed.

**White Sweet Spanish** (110 days): Bulbs globular, small neck and pure white. Flesh clear white, firm and mild.

**White Burmuda** (93 days): Bulbs clear white and mild enough to eat raw. Ideal for frying with meat.

**Yellow Bermuda** (93 days): Bulbs light straw color, flesh nearly white. Sweet and mild.

## PARSLEY

Parsley is so easy to grow and so much used for flavoring and garnishing that a short row should be in your garden. Seed is sown in the row as early as possible, may be soaked overnight first, as it is slow germinating. The plants later thinned to about six inches apart.

The principal variety is **Extra Double Curled**, which is compact, and has dark bright, green leaves. A packet is enough for the average family garden.

**1/2 ounce, 15c; ounce, 25c. Also Packets.**

## PARSNIPS

Parsnip is a cool-weather, long-season plant, and one of the easiest vegetables to grow. It is one of the most nutritious vegetables, but it has not attained great popularity, possibly because it is not always prepared in the kitchen as it should be.

Soil conditions should be similar to turnip or onion. Cultural directions are the same as most other root crops. A packet of seed should be sufficient for a fifty foot row.

**1/2 ounce, 15c; ounce, 25c. Also Packets.**

# SEEDS FOR YOUR FRIENDS ABROAD

Owing to Crop Failures,  
Seeds Are Scarce in Europe

ASTA Official Assortment, prepared as recommended by U.S. Department of Agriculture, sufficient to produce 5 tons of Vegetables, one year's supply for average family.

Packed for Export, **\$3.95**  
Delivered Prepaid

Delivery Can be Made to the Following Countries:

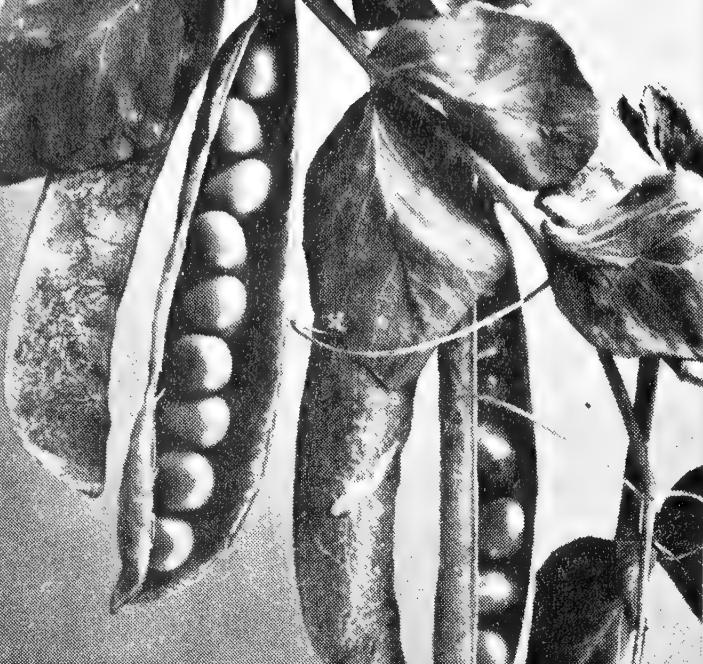
Albania	Italy
Austria	Luxembourg
Belgium	Netherlands
Czechoslovakia	Norway
Denmark	Poland
Finland	Portugal
France	Rumania
Germany	Sweden
British Isles	Switzerland
Greece	Turkey
Hungary	Yugoslavia

THIS OFFER LIMITED TO

SPRING 1948

This Truckload of Food from  
Two Pounds of Assorted  
Seed.





## PEAS

The pride and joy of every home gardener is a lush crop of early green peas. They are among the first rewards of the season, and the garden produces nothing that is at once so nutritious and so delicious.

It is not unduly difficult to attain a crop that will bring a sparkle to the eye of even the most seasoned gardener. The prime consideration is early preparation of the soil and this must be thorough, as peas like a good seed bed of mellow earth well worked into fine tilth. It should be undertaken just as soon as frost leaves the ground. When proper soil preparation has been reached it is advisable to work in a good complete fertilizer at the rate of about 2 pounds per 100 foot row.

One pound of seed will plant a row 100 feet long, which is about the required amount for a family of four or five persons. To develop a heavier root system, thus quickening the growth, **it is advisable to inoculate the seed** before planting. A small 10-cent packet of inoculation is more than enough to treat seed required for the home garden.

The dwarf, or low-growing type of garden peas, is the most popular with the majority of home gardeners, as it requires less work. **Little Marvel**, and **Laxtonian or Blue Bantam** are the most popular of these low-growing varieties. These two varieties are excellent for canning and freezing.

The most popular of the taller varieties are **Gradus** and **Tall Telephone**. They are also good varieties for canning and freezing.

**Packet, 10c; 1/2 pound, 20c; pound, 35c.**

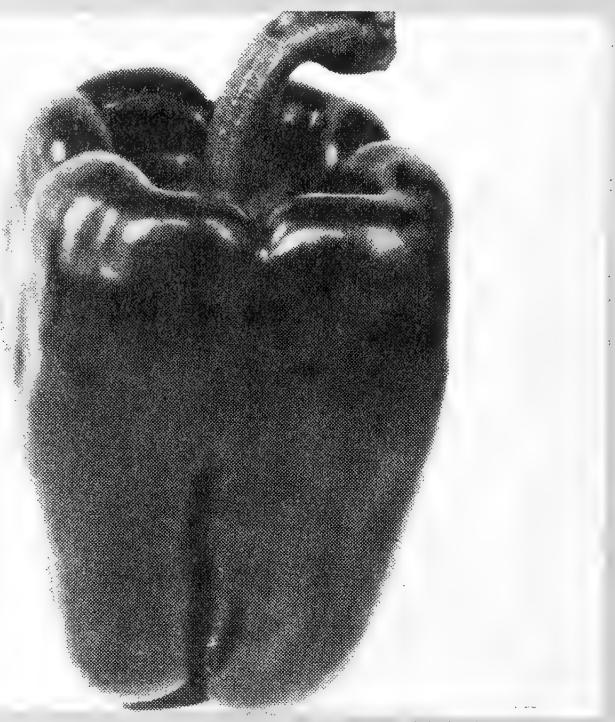
### EARLY VARIETIES

**Alaska** (58 days): Height of vine 30 inches. Pods 3 inches long, blunt, straight. 6 to 8 peas to pod. Used extensively for canning.

**Gradus** (65 days): Vine 36 inches, pods 4 inches long, broad, plump and pointed. 8 to 10 peas to pod. Excellent freezing variety.

**Laxtonian or Blue Bantam** (64 days): Vine 18 inches high. Pods 4½ inches long, broad, slightly curved and pointed. 7 to 8 peas to pod.

**American Wonder** (70 days): Height of vine 14 to 16 inches. Pods 2½ to 3 inches long, broad and slightly curved. 6 to 7 peas to pod.



PEAS . . . Blue Bantam

PEPPER . . . California Wonder



RADISH . . . Scarlet Globe

**Little Marvel** (63 days): Vines 18 inches high. Pods 3 inches long, blunt and plump. 7 to 8 peas to pod.

**Laxton Progress** (64 days): Height of vine 18 to 20 inches. Pods 4½ to 5 inches, pointed and some curved. 7 to 9 peas to pod. A good freezing variety.

#### LATE VARIETIES

**Tall Telephone** (74 days): Vines 40 inches high. Pods 4½ to 5 inches long, broad, plump and straight. 8 to 10 peas and a good freezer.

**Dwarf Gradus** (65 Days): Height of vine 22 inches. Pods 4½ inches with 8 to 10 peas. An excellent variety for freezing.

**Stratagem** (80 days): Vines 25 inches tall. Pods 4½ inches long, narrow, straight and pointed. 8 to 10 peas to the pod.

#### PEPPERS

For all practical purposes, peppers are grown similarly to egg plant. Seedlings may be raised indoors, but when the popular varieties are to be grown, many gardeners prefer to buy their young plants from their local seed store. Continuous warm weather is required for the best results. A moderate dressing of commercial fertilizer hoed into the soil after plants are well established, adds greatly to the productivity of peppers.

There are many varieties from which to select, but the best adapted green types for the Pacific Northwest are **California Wonder**, and **Bell or Bull Nose Pepper**. For seasoning and canning purposes, **Perfection Pimento** and **Cayenne Peppers** do quite well in warm locations.  
Packet, 10c; ½ ounce, 40c; ounce, 75c.

**California Wonder** (75 days): Fruits mostly 4 lobed, thick, sweet and mild. Deep green changing to crimson at maturity.

**Bell or Bull Nose** (64 days): A prolific early variety. 4 lobed fruits, deep green turning to brilliant scarlet at maturity.

**Chinese Giant** (70 days): Extremely large sweet pepper. Fruits are pendent and square-ended.

**Ruby King** (68 days): Fruits usually 3 lobed and very productive. Flesh thick, sweet and mild.

**Perfection Pimento** (73 days): A canning variety with smooth, heart shaped fruits. Dark green changing to crimson at maturity.

**Cayenne** (70 days): The favorite hot pepper. Fruit 4 to 5 inches long.

#### PUMPKIN

Pumpkins sprawl over so much territory, they are generally ruled out of small home gardens, just as melons. Where space is available, the small **sugar pumpkin** makes the best pies. Cultural directions are similar to those of muskmelon, except the hills should be a foot further apart each way.

½ ounce, 15c; ounce, 25c. Also Packets.

**Large Yellow or Connecticut Field** (118 days): Grown for stock feeding. Large, round and deep yellow. Very productive and a good keeper.

**Giant of All** (125 days): Almost globe shaped. Skin rich golden yellow. Flesh is firm, fine-grained and deep yellow. Excellent quality.

**Winter Luxury** (100 days): Excellent pie pumpkin. Medium size. Color golden russet, finely netted. Flesh deep golden yellow.

**Sweet or Sugar** (108 days): The best small "Halloween Pumpkin". Very good for pies. Skin orange, flesh deep yellow.

#### RADISH

**Radish** is the simplest of vegetables to grow and the quickest to make returns. It will grow almost anywhere, provided it has enough moisture, but if it is to be crisp, it should have readily available plant food in a rather loose, fine soil.

Sow spring radishes as early in the season as desired, approximately a week's supply at a time. Thin the plants to stand an inch apart and keep the weeds under control. Summer radishes require a little more space, and the winter sorts should be spaced about three inches. To keep the worms out, work crude naphthalene flakes into the soil, approximately one week before sowing seed.

There are several varieties from which to select, and personal tastes will be the deciding factor. **Early Scarlet White Tipped** is the most popular of the round, small, red radishes. **French Breakfast**, which has oblong shaped roots, is preferred by many. For a pure white radish, the **Icicle**, with its long slender roots is the first choice among many home gardeners. The two leading winter varieties are **China Rose Winter**, a red radish, and **Long Black Spanish**, which has a black skin and white flesh.

½ ounce, 15c; ounce, 25c. Also Packets.

**Early Scarlet White Tipped** (20 days): Roots nearly round, carmine red with small white tip. Flesh white, crisp and mild.

**French Breakfast** (25 days): Roots oblong, thicker toward the bottom. Dull scarlet with white tip. Flesh white and crisp.

**Early Scarlet Globe** (23 days): Solid red roots that are olive shaped.

**Early Scarlet Turnip** (26 days): Roots round and slightly flattened.

**White Icicle** (27 days): Roots long, slender and clear white.

**Crimson Giant** (28 days): Large, globular shaped roots. Deep crimson.

**China Rose Winter** (52 days): Winter variety. Roots long, thicker at lower end. Bright rose color.

**Long Black Spanish** (58 days): Winter variety. Roots long and tapering. Skin black, flesh white and solid.

## SALSIFY

The vegetable oyster, as it is commonly called, because of its oyster-like flavor after it is cooked, deserves to be more generally grown. It is a root of pleasing texture and flavor and is cultivated precisely as parsnip, except that salsify, being slimmer, may stand a little close in rows. The leading variety is **Mammoth Sandwich Island**.

**1/2 ounce, 30c; ounce, 50c. Also Packets.**

## SPINACH

**Spinach** is sown in the open as early as possible, setting the seeds an inch apart and a half inch deep in rows twelve to fifteen inches apart. Weekly sowings should be made, the last one about the first of June.

The plants are thinned to stand 5 inches apart in the rows and weeds must be kept down. To encourage leaf development, add nitrogen halfway through the growing period, troweling in a little nitrate of soda or sulphate of ammonia along the row, or sprinkle it on the soil, in a solution of two ounces to a gallon of water.

**Improved Thick-Leaf** is the most popular for home gardens. True to its name, it produces excellent "Greens." For a winter type of spinach, **Prickly Winter** is recommended for Northwest gardens.

**1/2 ounce, 15c; ounce, 25c. Also Packets.**

**Improved Thick Leaf** (46 days): Excellent freezing variety. Leaves are large, thick and very tender.

**King of Denmark** (45 days): Stands longer than most varieties. Leaves large, rounded and somewhat blistered.

**Prickly Winter** (45 days): Best variety for fall sowing. Leaves thick, medium size and dark green.

**New Zealand** (56 days): Thrives in hot dry weather. Plants large and spreading. Leaves small, thick and pointed.

## SQUASH

The extensive family of squashes falls into two broad classes: the bush or summer type, growing compactly by comparison, and producing fruits which are eaten while immature, and the vine or winter type, which sprawl widely and produce fruits eaten at maturity.

The summer type of squash may be grown handily in a medium sized home garden, as they may stand two feet apart in a row, or three to four feet apart in hills. The vining, or winter type squash requires twice this amount of space which often rules them out of the home garden with a limited amount of area for growing the various types of vegetables.

Soil should be well prepared where the plants are to stand as they have spreading shallow roots. A handful of commercial fertilizer may be worked into the soil for each hill. A packet of any one variety will be ample for family requirements.

The most popular summer types are **Zucchini** and **Cocozelle**, similar in size, shape, and flavor, the first one being lighter skinned. **Summer Crookneck** is very popular in the yellow sorts.

**1/2 ounce, 15c; ounce, 25c. Also Packets.**

## SUMMER VARIETIES

**Zucchini** (63 days): Skin is light green. Flesh pale green, thick, and tender. At best when 5 to 6 inches long.

**Cocozelle or Italian Marrow** (65 days): Skin is dark green becoming marbled with yellow at maturity. Best when 5 to 6 inches long.

**Early Summer Crookneck** (52 days): Fruits curved at neck. Skin is light yellow, thin and warty.

**White Bush Scallop** (50 days): Fruits flat with scalloped edges. Skin is creamy white. Also, flesh.

In the vining type, or winter squash, **Table Queen** or **Acorn**, is by far the most popular, as the small fruits are sweet, with tender, rich, orange-yellow meat. In the larger varieties, the **Improved Green Hubbard** still ranks high in popularity.

### WINTER VARIETIES

**Improved Green Hubbard** (105 days): Fruits 10 to 12 pounds. Pointed at both ends. Dark bronze green and slightly warty.

**Golden Hubbard** (100 days): Fruits 8 to 10 pounds. Rind is golden yellow and warted. Flesh deep golden orange.

**Banana** (105 days): Fruits are cylindrical with thin, smooth skin. Flesh is orange-yellow, sweet and tender.

**Table Queen or Acorn** (70 days): Acorn shaped fruits with dark green skin. Flesh deep orange. Excellent for baking.

**Boston Marrow** (97 days): Fruits 6 to 8 pounds. Resembles Hubbard in shape. Skin deep orange and quite hard.

**Mammoth Chili** (120 days): The giant among squash. Fruit 50 to 60 pounds. Skin light yellow. Grown for stock feed.

## TOMATO

One of the most popular garden plants, the tomato requires a considerable amount of space, but makes very good use of it. Apart from the richness of the fruits in vitamins and dietetic value, there is nothing quite so satisfying as the delicate flavor of a freshly picked tomato from your own vine.

Tomatoes will grow in any decent garden soil, properly drained, but retentive of soil moisture and in good heart. During the harvest season, better quality fruit will be produced if a mild application of complete fertilizer is made every ten days to two weeks.

There is now available for home gardeners a new hormone spray, which scientifically pollinizes the tomato blooms, and will greatly increase the productivity of your plants. Also, the use of this material will produce almost seed free tomatoes. It is not difficult to use, but maximum results can only be obtained where directions are followed to the letter.

There are so many varieties of tomatoes, and each year finds additional names added to the list, that it is difficult to recommend any one variety over all

others. Each gardener has his own taste, and preference, because of past results. From volume seed sales, it would indicate that **Bonnie Best**, **Pritchard**, and **Marglobe** are the three most popular with the majority of home gardeners.

Seeds should be started in flats about a month before warm spring weather is anticipated, then, when all danger of frost is passed, set out the young plants at intervals of not less than two feet, and preferably three feet apart. Set the plants a little deeper in the ground than they were in the flats and water with a starter solution.

As the plants grow, suckers or side branches spring from the axils of leaves where they join the main stem. Until fruit is set these are to be pinched out. There is almost as many theories on the best way to grow tomatoes as there are gardeners. Select one plan of growing and then stick to it. If you attempt to try every method suggested, you will probably end up with no tomato plants.

**Packet, 10c; 1/2 ounce, 40c; ounce, 75c.**

**Bonny Best** (105 days): Fruits medium to large. Globe shaped, smooth, bright scarlet and of excellent quality.

**Early Jewel** (105 days): A heavy cropper. Fruits scarlet, globe shaped. Few seed, thick solid meat.

**Earliana** (94 days): Early, bright scarlet tomato. Medium size with smooth skin.

**Break'O Day** (98 days): Vines vigorous and very productive. Fruits globe shaped, very solid and medium size.

**John Baer** (105 days): Fruits medium size, semi-globe. Excellent for canning.

**Marijlobe** (110 days): Resistant to wilt. Medium size fruits, globular in shape. A heavy producer.

**Pritchard** (107 days): Wilt resistant, producing large, vigorous vines. Fruits globular and light scarlet.

**Ponderosa** (107 days): Very large fruit of excellent flavor. Purplish pink in color. Good for canning.

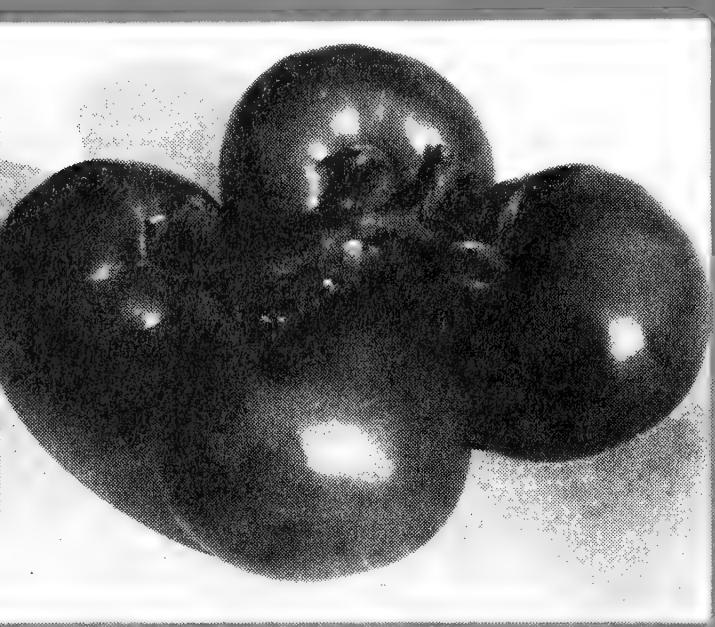
**Stokesdale** (105 days): Famous among market gardeners. Heavy producer. Fruit medium size and uniform. Has wide adaptability.

**Dwarf Champion** (125 days): Desirable where space is limited. Tree type tomato producing medium size fruits.

**Golden Queen** (112 days): Fruits medium to large, deep golden yellow. Smooth skin with solid meat.



SQUASH . . . Table Queen



TOMATO . . . Mariglobe



Set early tomato blooms and get 20% to 30% additional crop with FIX. Large, well-shaped seedless fruit. Also melons, cucumbers, squash. Newest achievement of agricultural science!



20 TABLETS . . . 25c  
MAKES 20 QUARTS

100 TABLETS \$1.00  
MAKES 100 QUARTS

## TURNIP

The Turnip is a cool-weather plant that will grow in almost any garden, but makes its best response to a soil that is well worked and in good fertility. Spring sowing in the garden should begin as early as possible, a little of the row at a time in order to provide continuous supply.

The seed should be thinly sown in rows twelve to fifteen inches apart, lightly covered, and firmed down. Generally the distance between plants should be about five inches in the row.

There are a number of varieties from which to select. However, **Purple Top White Globe** is the best for general home use.

**1/2 ounce, 15c; ounce, 25c. Also Packets.**

**Purple Top White Globe** (57 days): Roots medium size and globe shape. Flesh white, fine grained and excellent flavor.

**Purple Top Strap Leaf** (46 days): Roots are flat with purple top. Flesh white and firm.

**Golden Ball** (65 days): Roots medium, round, smooth and yellow. Flesh deep yellow and fine texture.

**Early Snow Ball** (40 days): Sweet, crisp, tender roots of medium size. Round in shape and white throughout.

**Pomeranian White Globe** (75 days): Roots large, globe-shaped and weigh from 5 to 8 pounds. White throughout.

**Yellow Aberdeen** (80 days): Roots globular with purple tops and yellow on the bottom. Grown for stock feed.

**Cowhorn** (70 days): Excellent winter cow feed. Roots white with light green shoulders. One-third out of the ground.

## RUTABAGA

Grown mainly for a winter storage crop, this vegetable is not too popular with most home gardeners. Its growing habits are the same as most of the root crops. However, it differs considerably in appearance. It is more elongated than the globe-shaped turnips, with gray-green, smooth foliage, instead of the green, hairy leaves of the turnip.

**American Purple Top** is by far the most popular variety.

**1/2 ounce, 15c; 1 ounce, 25c. Also Packets.**

# VEGETABLE SEED PLANTING CHART

KIND OF SEED	Time to Plant Outdoors	Distance for Plants		SEED REQUIRED		Ready to Use
		Between Rows	In the Row	Row	Acre	
Asparagus.....	Feb.-Apr.....	5-6 ft.	18-24"	1 oz.-40 ft.	2-3 lbs.	2nd Spring
Beans, Bush.....	Apr., May and June	2-3 ft.	3-4"	1 lb.-250 ft.	90-100 lbs.	40-65 days
Beans, Pole.....	Apr., May and June	4 ft.	2½-3 ft.	1 lb.-125 hills	30-40 lbs.	70-90 days
Beans, Lima.....	May-June.....	2-4 ft.	10-36"	1 lb.-80 hills	50-60 lbs.	90-130 days
Beets, Table.....	Mar.-July.....	14-20"	2-4"	1 oz.-100 ft.	10-15 lbs.	45-60 days
Broccoli*.....	June-Aug.....	24-30"	14-18"	1 oz.-1500 plants	6-8 oz.	120-150 days
Brussel Sprouts*..	Apr.-June.....	30-36"	18-24"	1 oz.-2000 plants	6-7 oz.	100-120 days
Cabbage, Early*.	Feb.-Apr.....	30-36"	16-24"	1 oz.-2000 plants	6-8 oz.	90-110 days
Cabbage, Late*.	May and June.....	36-42"	24-30"	1 oz.-2000 plants	6-7 oz.	110-120 days
Carrots.....	April-July.....	12-24"	2-3"	1 oz.-250 ft.	3-4 lbs.	55-80 days
Cauliflower*.....	March-June.....	3-4 ft.	24-30"	1 oz.-1500 plants	6-7 oz.	95-110 days
Celery*.....	April-July.....	18-36"	6-10"	1 oz.-8000 plants	4-5 oz.	120-150 days
Chicory.....	Mar.-May, Sept....	16-20"	6-8"	1 oz.-200 ft.	3-4 lbs.	90-120 days
Chives.....	April and May....	12-18"	4-6"	1 oz.-200 ft.	4-5 lbs..	125-150 days
Sweet Corn.....	April-June.....	36-42"	9-12"	1 lb.-100 hills	12-15 lbs.	55-90 days
Cress.....	Feb.-May, Sept....	12-18"	4-6"	1 oz.-250 ft.	3-4 lbs.	45-60 days
Cucumber.....	April-July.....	4-6 ft.	10-12"	1 oz.-100 hills	2-3 lbs.	50-75 days
Egg Plant*.....	April and May....	24-30"	18-24"	1 oz.-1500 plants	4-5 oz.	125-140 days
Endive.....	May and June.....	18-20"	10-12"	1 oz.-300 ft.	3-4 lbs.	90-100 days
Herbs, Annual...	March and April...	20-24"	10-12"	1 oz.-200-600 ft.	3-10 lbs.	125-150 days
Herbs, Perennial	April-June.....	20-24"	10-12"	1 oz.-200-600 ft.	3-10 lbs.	Next Season
Kale.....	Mar. and Apr., Aug.	18-24"	12-18"	1 oz.-2000 plants	6-8 oz.	55-60 days
Kohl Rabi.....	March-May.....	16-24"	6-8"	1 oz.-300 ft.	3-4 lbs.	50-70 days
Leek.....	May-June.....	14-20"	4-6"	1 oz.-150 ft.	4-5 lbs.	120-150 days
Lettuce, Leaf....	March-Sept.....	12-18"	4-6"	1 oz.-600 ft.	4-5 lbs.	40-70 days
Lettuce, Head....	February-August...	12-16"	12-14"	1 oz.-3000 plants	1-1½ lbs.	70-90 days
Muskmelon.....	April-June.....	6-8 ft.	4-6 ft.	1 oz.-40 hills	3-5 lbs.	90-150 days
Watermelon.....	May and June.....	8-12 ft.	6-10 ft.	1 oz.-25 hills	4-6 lbs.	100-160 days
Mustard.....	Mar.-May, Sept....	12-18"	2-3"	1 oz.-600 ft.	4-5 lbs.	60-90 days
Okra*.....	April and May....	2½-3 ft.	18-24"	1 oz.-250 plants	5-6 lbs.	70-90 days
Onion, Seed.....	April and May....	12-18"	2-4"	1 oz.-200 ft.	4-5 lbs.	125-150 days
Onion, Sets.....	Oct.-May.....	12-18"	2-3"	1 lb.-50 ft.	2-3 sacks	50-70 days
Parsley.....	Mar.-May, Sept....	18-24"	12-16"	1 oz.-250 ft.	3-4 lbs.	65-90 days
Parsnip.....	April-June.....	15-20"	2-4"	1 oz.-300 ft.	4-6 lbs.	130-145 days
Peas, Dwarf.....	Nov. and Feb.-June	18-24"	1-2"	1 lb.-120 ft.	150-175 lbs.	45-75 days
Peas, Tall.....	Nov. and Feb.-June	4-6 ft.	1-2"	1 lb.-120 ft.	100-125 lbs.	60-90 days
Pepper*.....	May and June.....	18-24"	14-16"	1 oz.-1500 plants	3-4 oz.	130-150 days
Potatoes, Irish...	March-June.....	24-36"	14-18"	1 lb.-15 ft.	7-9 sacks	90-150 days
Pumpkin.....	May-July.....	8-12 ft.	6-8 ft.	1 oz.-30 hills	4-5 lbs.	75-90 days
Radish.....	February-Sept.....	12-18"	1-2"	1 oz.-100 ft.	8-10 lbs.	20-75 days
Rhubarb.....	March-June.....	30-36"	16-24"	1 oz.-250 ft.	6-8 oz.	3rd Year
Rutabaga.....	May and June.....	18-24"	6-8"	1 oz.-400 ft.	2-3 lbs.	90-120 days
Salsify.....	March-May.....	18-24"	2-4"	1 oz.-120 ft.	8-10 lbs.	120-150 days
Spinach.....	Feb.-May, Sept....	12-18"	3-6"	1 oz.-100 ft.	10-12 lbs.	45-60 days
Squash, Bush....	April-June.....	3-4 ft.	3-4 ft.	1 oz.-30 hills	4-6 lbs.	65-70 days
Squash, Winter..	May-July.....	10-12 ft.	8-10 ft.	1 oz.-15 hills	3-4 lbs.	120-140 days
Swiss Chard.....	March-July.....	12-18"	4-8"	1 oz.-150 ft.	6-8 lbs.	45-60 days
Tomato*.....	April-June.....	3-4 ft.	2-3 ft.	1 oz.-3000 plants	3-4 oz.	125-150 days
Turnip.....	March-August.....	12-15"	3-4"	1 oz.-400 ft.	2-4 lbs.	45-90 days

\* Planting dates shown for crops marked "\*" are intended to be for setting plants into the garden. Seeds should be sown 40 to 60 days earlier, indoors or under glass.

Seed should be covered from three to five times its diameter. Press soil down firmly. Keep moist continuously.

The above chart gives distances between rows for hand cultivation; where garden tractor is used the rows should be farther apart.

# FREEZE ONLY VEGETABLES FRESH PICKED FROM GARDEN

Vegetables to be stored in home freezing units or lockers should be frozen, just as they should be cooked, as soon as possible after harvesting. This is the recommendation made by state experiment stations which have tested loss of flavor, tenderness and vitamin content in vegetables after the harvest.

"Prompt handling of garden products from harvesting to freezing is of the utmost importance," says extension bulletin 244 from the University of Minnesota. "For example, holding freshly picked peas in a warm room for 3 to 4 hours will materially toughen the skins. Losses of Vitamin C are greatest during this period."

One-to two-thirds of their original Vitamin C value, the bulletin says, may be lost by vegetables in 24 hours at room temperature. If necessary to hold overnight, they should be placed in a refrigerator or covered with crushed ice. Never try to hold them after shelling, slicing or scalding.

The findings concerning the loss of nutrition are of importance to housewives who harvest or purchase vegetables for the table. Peas are an outstanding example of the loss of flavor due to delay in cooking or processing. Tests by the state experiment station at Geneva, N. Y., showed also that Vitamin C dropped as peas grew older. In lots harvested at different stages of maturity over a 10 day period, the oldest lots contained 36 per cent less Vitamin C than the youngest. They also lost tenderness, as indicated by a tenderometer reading of 80 for the youngest, and 140 for the oldest. Tenderometer is a new device to measure toughness.

Peas are sweeter at dawn, according to the Washington state college, and if harvested then should be kept in a cold place until cooked, frozen or canned.

Spinach stored at room temperature lost 48 per cent of its Vitamin C content in 24 hours, according to the Oklahoma experiment station; and in six days it lost 91 per cent. Spinach is often six days on the way from field to the table.



Garden-fresh for freezing means not more than two hours after harvesting.

Varieties of vegetables recommended for freezing are, in general, the home garden kinds which excel in tenderness and flavor, without regard to their shipping qualities.

Use small, tender beets, the young tender leaves of all greens, carrots harvested late in the fall and mature but not woody. Grade lima beans and peas by floating in cold brine and discarding all that sink to the bottom, which will be overmature. Pick corn slightly more mature than for table use. Whole tomatoes do not freeze well.

# YOUR LAWN

Every home owner desires a lovely lawn with thick healthy turf. It is not a difficult task, if thoroughness is the keynote in early preparation. There used to be a saying that a lawn had to be centuries old before it could be good. If anyone tells you that, just smile. You can have a perfect lawn in from six months to a year. Thanks to Western lawn specialists, who have studied grasses and their reaction to soil and climatic conditions.

In planning and making a lawn, keep in mind that it is a longtime proposition, and that a good foundation is essential. Many times this calls for artificial drainage, grading, which is artistically effective, as well as practical from the point of view of upkeep. Or perhaps, you may be one of the fortunate individuals who has an ideal situation from which to begin.

## START WITH SUBSOIL

First attention must be given to drainage. If it is naturally poor, the top soil should be removed, saved for future use, and the subsoil broken up.

We must stress the importance of removing the top soil and saving it before going to work on the subsoil drainage, as the top 4 to 6 inches of ground is always the best, and should be used as a base for the later development of the root system of your lawn.

If the subsoil is the heavy clay type, a generous application of coarse sand, or

even fine gravel, will help greatly in correcting this condition. If compost material is available, by all means use generous quantities. On the other hand, a light sandy subsoil does not require a great deal of correction, unless it is the addition of humus material such as Compost or Peat Moss.

Barnyard manures are not desirable in making a new lawn because they are likely to contain many weeds, which will continue to germinate over several years.

## PREPARING TOP SOIL

After the subsoil condition has been corrected, and the desired grade reached, the topsoil can be replaced. If the soil is poor, haul in enough good rich loam to cover the area to a depth of 6 inches.

If your summer weather is hot and dry, and watering is a problem, add to this topsoil a generous quantity of peat moss, at the rate of one bale to 600 sq. feet.

Also, at this time, add a good complete commercial fertilizer, at the rate of 4 lbs. per 100 sq. feet. This will supply available nourishment for the new grass, as well as a supply of plant food later on.

After preparing the topsoil, water to bring up weeds. In new locations, repeat this two or three times, hoeing down the weeds each time they come up. Just before sowing your seed, level and rake smoothly, and then roll.

See also inside back cover.

## SEED FOR YOUR LAWN

The selection of seed is vitally important as good preparation will be of little benefit unless the proper mixture is selected for your particular locality. It is far better economy to spend a few extra pennies on a high quality seed, and have a satisfactory lawn for many years, than to sacrifice quality for a temporary saving. A mixture containing two or more "Base Grasses" and one "Nurse Grass" is the ideal combination for Northwest soil and climatic conditions. Keep away from mixtures containing filler grasses, such as English Rye Grass, Timothy, or Mesquite. These grasses develop into thick bunchy clumps, and will mar the beauty of even the best kept lawn.

**BASE GRASSES** are those which will live for many years, and will of themselves occupy the whole area on the existing type of soil if properly maintained. This class of grass is almost invariably slow to mature, but once it is established, it is there forever. The following grasses are classified in this group:

**Kentucky Blue Grass**, which produces a hardy turf of rich green plants, a flat type leaf, and a heavy root system that reacts very well to plant food.

**Chewings Fescue** produces a fine textured brilliant green dense turf. The leaf blades are particularly distinctive, being cylindrical in shape rather than flat. Chewings Fescue is deep rooted, rather tolerant of poor moisture conditions and

**DON'T BE SATISFIED** with a sparse, spotty lawn. You can very easily have one that's "the finest in the neighborhood." Feed your lawn with Vigoro, complete plant food. Vigoro supplies all growing

things with the nourishment needed from the soil. It is clean, odorless, sanitary, and easy to use! Most economical, too!

We have Vigoro and all garden supplies.



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hard usage, but, of course, its full beauty can only be realized with adequate care. It is adapted to approximately the same conditions as Kentucky Blue Grass, but is superior in its adaptation to shaded conditions.

**Creeping Red Fescue** is very similar in appearance to Chewings Fescue, the only readily apparent difference being a darker green color, and a somewhat softer texture. It is rapidly becoming the most popular individual grass for Western lawns because of its turf and its ability to withstand fungus diseases which often attack Bent Grasses.

**Creeping Bent** is widely known for its exceptionally fine turf producing qualities. Its fine bladed leaves and thick root system make an excellent turf if given proper care.

**NURSE GRASS**—Its life is short, but it plays an important part in grass seed mixtures. It grows fast and occupies the soil until the slower and more permanent varieties are far enough along to cover the ground. By its nature, Nurse Grass seldom lives over three years and should not compose over 30% of the entire mixture. The best known and widely used in this group is Red Top.

## PLANTING TIME

Here in the Northwest, lawns can be planted almost anytime of the year if the soil and seed are kept moist throughout the early growing stages. However, the most desirable time is either during the spring season or early fall, as this presents cooler weather conditions, and moisture is more readily available. Whatever the season, loosen the soil with a steel rake to a depth of one inch just before sowing. Then divide the seed into two equal parts. Sow one part as you walk North and South, and the remainder as you walk East and West. This method assures a more even application of the seed, and helps greatly to eliminate bare patches. It is desirable to sow the seed on a calm day, as even a light wind can cause considerable trouble in securing even distribution with fine lawn seed. Covering the new seed with a thin layer of Peat Moss will speed up germination and give added protection against the ground drying.

## WATERING YOUR LAWN

After the area has been thoroughly seeded at the rate of 1 lb. to 150 sq. feet, roll the area with a medium weight roller, and then wet thoroughly with a fine spray, being careful not to wash any of the soil.

During the early stage of germination, the soil and seed should be kept moist at all times. This is best accomplished by watering lightly in the morning and in the evening. Care should be taken not to apply water when the sun is out full, as this may result in a burning action which would kill the germination of the seed. After the grass is well started, the watering should be more thorough and less frequent. Deep watering encourages the development of deep roots upon which the future success of a lawn largely depends. Shallow watering or sprinkling tends to bring the roots near the surface where they are quickly affected by severe heat. It is far better to water a lawn thoroughly once a week, than it is to make light daily applications.

## MOWING YOUR LAWN

In mowing a new lawn, set the blades to cut not less than 2 or 3 inches above the ground. As the turf becomes thick, it can be mowed closer, although the longer the grass can be left, consistent with good appearance, the better it is for the grass. Shortly clipped lawns dry out fast during hot summer months, and when this condition once starts, it is very hard to check.

It is best to remove all grass clippings each time the lawn is mowed, storing these clippings in your compost pile. If this is not done, they will form a soggy mat at the soil surface, robbing the soil of nitrogen, and cause a sour condition which is not beneficial to growing plants.

## GENERAL LAWN CARE

To properly care for an established lawn, a few simple rules should be followed each growing season. Early in the spring, the turf should be well raked with a steel or moss rake to remove all leaves and other material accumulated during the winter. Then an application of a complete plant food at the rate of 4 lbs. to every 100 sq. feet should be made to afford the lawn plenty of food right from the

start. This should be followed in about two months with the second application of fertilizer at the rate of 2 lbs. per 100 sq. feet. This same schedule should be followed throughout the hot summer months, if a perfect lawn is desired.

As dry weather comes, watering should be consistent and deep, as once a lawn is allowed to dry out, it is almost an impossibility to bring it back to a normal condition during any one season.

## SELECTIVE WEED KILLERS

Much has been written and said about 2-4D Selective Weed Killers the past few years. This material is truly a boon to the home gardener, as it eliminates the hardest individual job in lawn care, and makes it possible for anyone to have a lovely weed-free lawn with the least amount of effort.

2-4D Weed Killer has passed the experimental stage, and is definitely effective against most common weeds found in lawns. It does not leave an unsightly residue on the grass, nor is the material hazardous to pets. 2-4D gives best results when applied on warm, sunny days. There is little response to the material if applied when the temperature is below 50°. In arid sections, with low humidity, sprays should be applied in the morning to avoid rapid evaporation, typical of afternoon applications. In most localities, this means that weeds are in the best condition for application of this material between May 1 and Sept. 15.

Under ideal conditions, only one application is necessary to kill susceptible weeds permanently. However, a good weed eradication program requires follow-up sprays, for some plants may be missed, and some plants may be so resistant as to require a second and third application. Then, too, weed seeds may germinate later and produce new weed plants.

This product is sold under several trade names, each container giving directions for the material. Care should be given at the time of application to prevent the spray from contacting flower plants and shrubbery, as its killing action will effect almost any broadleafed plant. Therefore, it is advisable to make application on a day with little or no wind.

**LIGHTWEIGHT** and easy to operate. Women cheer Clemson's combination of tough, light metals, rubber tires and easy rolling bearings. Its total weight is only 32 pounds.

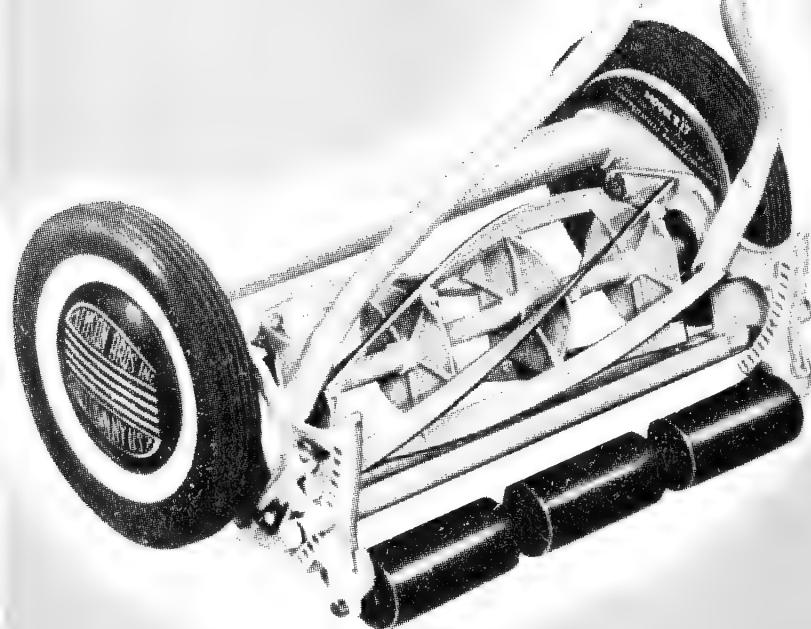
**PRECISION BUILT** to give years of efficient service. The rugged, forged, high carbon steel blades and heat-treated bed-knife cut grass as smooth as a carpet.



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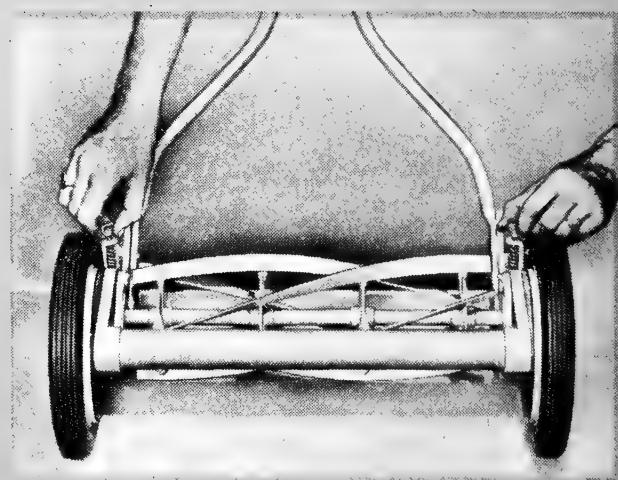
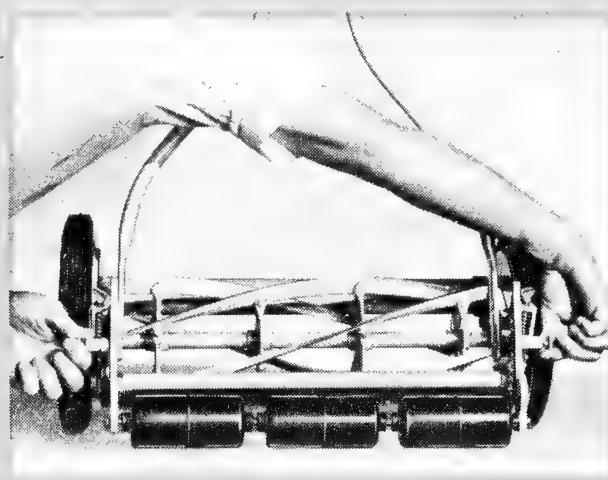
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Cutting height changed in a second.

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# ACID LOVING PLANTS

In all America few flowers compare in richness and beauty with our acid loving plants . . . Camellias . . . Azaleas . . . and Rhododendrons. Their richness and beauty deserve the special care they require.

Over the years we have learned the temperature preferences of most flowers. And we learned their moisture requirements. But flowers, all plant life, in fact, have another preference . . . a preference for soils within a certain acid, alkaline ratio. For short, scientists refer to this preference as "pH" range.

In days gone by this reaction was difficult to measure. Experienced gardeners through careful observation learned that certain materials produced the desired growth. To their dismay, the treatment often failed to achieve the blooms they expected. Then the soil was changed or the planting moved.

Today the answer to their failure is known. Constant use of their specific materials had a reaction on the soil. It made the soil more acid or more alkaline to the point that the soil passed the preference range of the flowers they were growing. It was too much of a good thing.

It is not at all difficult or mysterious to learn the pH of your soil. A simple, inexpensive soil test kit is available through most garden supply stores and it is easy to use.

Camellias, Azaleas and Rhododendrons have a pH preference of 4.5 to 5.0 and will give the finest blooms year in and year out if your soil remains within this range.

If too alkaline (a pH higher than 5.0) treat your soil with an application of 4 pounds of iron sulphate or aluminum sulphate per 100 square feet (10'x10') and soak it into the soil. Make another test three weeks later and repeat the application if the soil reaction is not down to the proper range.

If too acid (a pH lower than 4.5) treat your soil with an application of 5 pounds of hydrated lime per 100 square feet. It is slow acting so wait 30 days before making a second check.

The above mentioned materials are not themselves plant food. They are used only to condition the soil to the proper pH range. Therefore, your Acid Loving plants must be fed in the same manner as other plant life. Care should be given in selecting the proper plant food so as not to throw the soil range out of balance. The steady use of "acid fertilizers" is not advisable as this will continually change the range and these delicate shrubs will not react favorably.

Vigoro plant food is neutral in soil reaction and supplies all of the many nutrients these lovely plants require from soil. Feed your Camellias, Azaleas and Rhododendrons in early spring and regularly during the blooming period with 4 pounds of Vigoro per 100 square feet for plants up to three feet high. Add one pound of Vigoro for each additional foot in height.

With this fertilizing program and a careful check of the soils pH range these lovely flowering plants will produce an abundance of blossoms for many years.

# TOOLS FOR FARM AND GARDEN

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GARDEN HOES No. 7—Solid forged, socket type hoe with 7 inch full polished blade. Fifty-two inch Ash handle.

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HOLLOW BACK SHOVEL No. 2—Made from heat treated, alloy shovel steel. Standard round point with rolled shoulder.

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# ROSE



# CALENDAR

## JANUARY - FEBRUARY - MARCH

January is the best month for dormant spraying . . . when you have a few dry days. Pick up and dispose of old leaves from the ground and remove any foliage which persists on the canes. Spray bushes and soil with Lime-Sulphur, one part spray material to eight parts water.

During February apply from four to six inches of old, well rotted cow manure to the beds. Weather regulates your pruning during this period. It is generally safe from the middle of March on so that late frost will not kill premature growth. With an early spring it is necessary to start spraying or dusting for control of insects and diseases.

## APRIL - MAY - JUNE

This is the feeding and pest control period. Spraying or dusting should be done at least once a week. Ortho Rose Spray (Extrax and Greenol) or Ortho Rose Dust is highly recommended. Stick with one or the other throughout the season and apply according to directions. Fertilize with Vigoro (4-12-4) every fifteen days at the rate of two pounds per one hundred square feet. Water beds well at weekly intervals.

Hybrid Teas can be debudded at two to three day intervals during May, leaving only the terminal buds on a shoot. A mulch of peat moss should be applied during June if cow manure has not been previously applied . . . this holds moisture.

## JULY - AUGUST - SEPTEMBER

Continue your weekly spraying or dusting program throughout this period. Do not apply when temperature is above 85 degrees as this tends to burn foliage. Do your spraying or dusting in the evening during hot weather. No fertilizer during July and August as root injury may result. Soak beds at weekly intervals. This is best done during the cool of evening.

During the latter part of July, cut back some of the more "stocky" canes about six inches to stimulate new growth for fall blooms. Start weekly application of Vigoro the first week in September.

## OCT - NOV - DEC

If weather stays mild during October it is advisable to continue with your spraying or dusting, increasing the interval to two weeks. This makes disease easier to control next season. Watering and fertilizing should be stopped during this period.

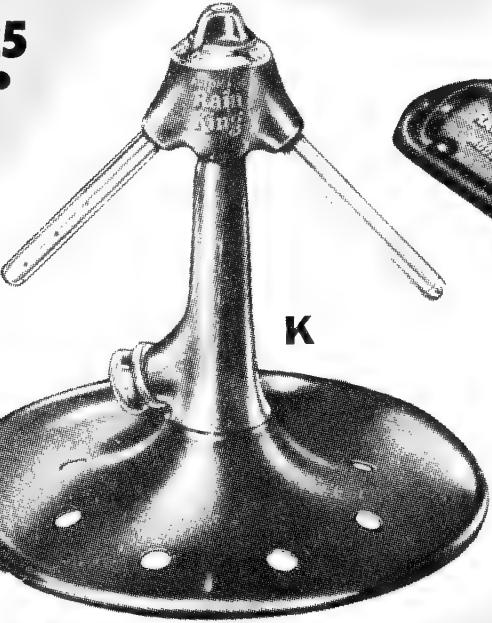
In November it is advisable to give your bushes a preliminary pruning or "topping" to minimize possible root damage during high winds and early frosts. New roses may be planted in November. Become acquainted with the many fine new varieties now offered. This section of the United States is ideal for the growing of these lovely flowers. Every gardener should enjoy the pleasure of a real rose garden.

# Rain King

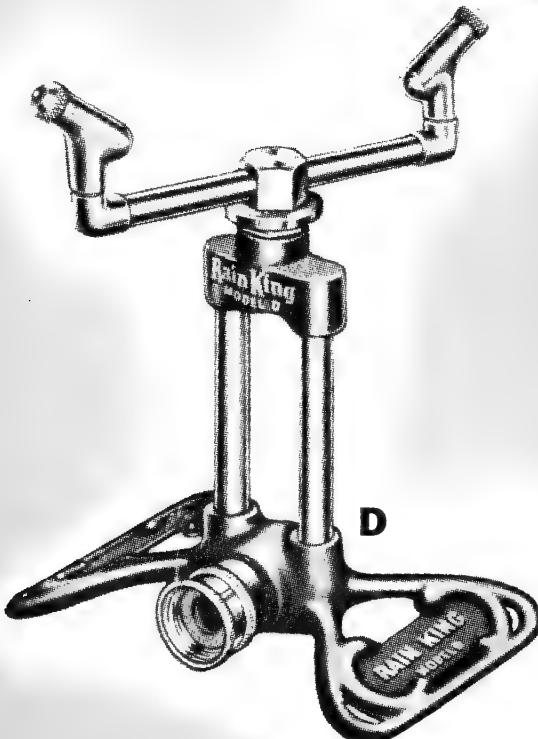
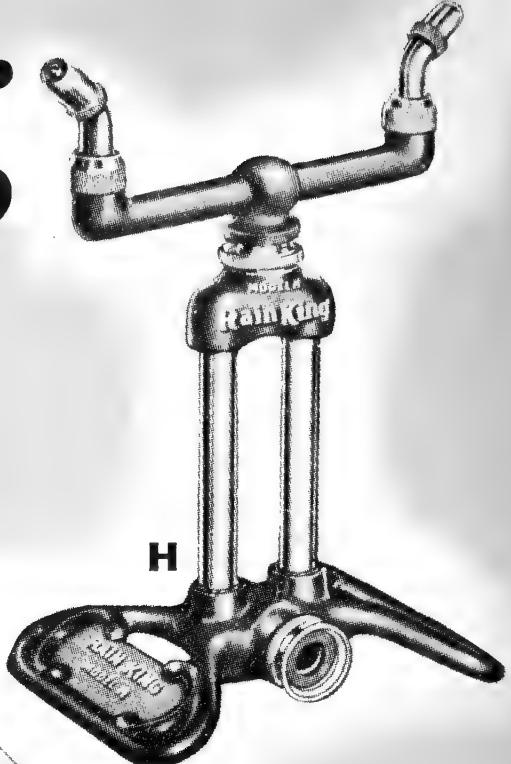
## SPRINKLERS

**MODEL H**—A big, substantial sprinkler that puts out MORE water in just the places you want it. Adjustable heads from coarse to misty fine.

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**H**



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**MODEL K**—The new automatic Rain King that can be set instantly to sprinkle any size circle . . . 5 to 50 feet, by simply turning a button.

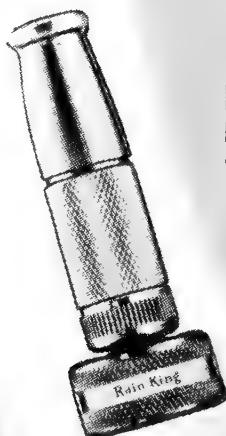
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**MODEL D**—Exclusive patented double nozzles can be easily set to water circles, long narrow strips or hard-to-get corners. Throws any kind of spray, from misty shower to drenching downpour.

**4<sup>95</sup>**

**RAIN KING NOZZLE**—Machined from solid brass. Chrome plated for protective beauty. Quickly set for any spray desired.

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## FERTILIZER CHART

PLANTS	FERTILIZERS AND AMOUNTS	WHEN TO APPLY
Annuals	Balanced commercial fertilizer, elements preferably in the ratio 4-12-4 or 5-6-8. Three to 4 pounds per 100 square feet.	In Spring, when preparing beds for planting. Work it into top 5 inches.
	Balanced commercial fertilizer, $\frac{1}{4}$ the above amount per 100 square feet.	When plants are in bud stage, apply once. For long-blooming kinds, 2 applications, 8 weeks apart.
Biennials and Perennials	Same as for annuals	When new growth starts in Spring. Work it into top 5 inches.
	Same as for annuals.	After the above, apply at 6-week intervals till end of August.
Bulbs	Bonemeal. One-half inch bone-meal under 1 inch sand under each bulb.	At planting time.
House Plants, Porch and Window Boxes	Balanced commercial fertilizer, or house plant tablets. Apply in liquid form, usually 1 level teaspoonful or 1 tablet to 1 quart water.	When new growth starts in Spring and thereafter at 6-week intervals till end of October. Also, when planting (plants, not seed) or repotting, mix dry commercial fertilizer with soil.
Lawns: Old	Balanced commercial fertilizer, 3 to 4 pounds per 100 square feet. A rich thick lawn keeps weeds out.	As soon as last frost is out of ground, and thereafter at 6-week intervals till end of October.
	Well-rotted manure, 2 inches for ordinary soils, 4 to 6 for heavy or sandy; plus balanced commercial fertilizer, 3 to 4 pounds per 100 square feet.	When preparing ground for seeding (preferably April or September). Spread commercial fertilizer over manure, and work them in 6 inches.
Hedges: Old	One pint balanced commercial fertilizer to each 15 feet of row, putting half on each side.	When new growth starts in Spring, and thereafter at 6-week intervals till end of August. Work lightly into soil.
	One pint balanced commercial fertilizer to each 20 feet of trench.	When planting. Spade thoroughly into bottom of trench.
Trees: Old	Allow 1 pound balanced commercial fertilizer for each inch of circumference of trunk, measured at height of 4 feet.	Once a year. Preferably Spring, just as new leaves begin to develop, but can be done any time. Put it in crowbar holes circling tree at distance of greatest branch-spread, and 2 inches wide, 18 inches deep. Put 2 inches of soil in top of each hole.
	Allow 1 pint balanced commercial fertilizer for each foot of diameter of the hole.	When planting. Spade thoroughly into bottom of hole.

## THINGS TO REMEMBER

**Always** follow the directions that come with your fertilizer just as carefully as you would follow your doctor's prescription.

**Never**, except when working it in, put commercial fertilizer on dry ground. First water the soil.

**Never** let any kind of fertilizer touch a plant —stalk, stem, foliage, or flower. It burns them.

**Always** use only **well-rotted** manure. New manure may bring harmful bacteria; always brings weed seeds and an unpleasant odor.

**PROTECT YOUR GARDEN**



**PEST-B-GON Insect Spray.** Contains 20% DDT. Kills Beetles, Worms, Thrips, Ants, Leafhoppers; also Houseflies (as screen paint), Mosquitoes, Fleas.  
4-oz. Bottle, 65c      1 Pint, \$2.00

**ORTHO Ant and Roach Powder.** A Fluorine-Pyrethrum Insecticide for use against Ants, Roaches, Silverfish. Easy to use. . . . . 4½-oz. Shaker, 25c

## TWO GREAT NEW PRODUCTS

**BOTANO Deluxe.** Improved: contains Zinc and Iron Carbamates, Gamma Isomer of Benzene Hexachloride, Di-  
-anisyl Trichloroethane.

**8-oz. Duster, 75c      2-lb., \$1.50**

**VAPOTONE Spray.** Kills Red Spider, Aphis—for Greenhouse use.

**47-100 gal. . . . . \$7.90**  
**95-100 gal. . . . . \$11.90**

**ORTHO Soil Fumigant.** To control Cabbage and Onion Maggot, Sod Webworm.

**4-oz. Bottle, 35c      1 Pint, \$1.00**

**TRIOX.** Poisons soil and prevents weeds from growing. Use on driveways, walks, and other places where no vegetation is wanted.

**1-Qt. Can, \$1.00    1-Gal. Can, \$3.50**

**EXTRAX Insect Spray.** Contains Rotenone and Pyrethrum. Kills by contact insects such as Aphis, Beetles, Caterpillars, Thrips.

**4-oz. Bottle, \$1.00      1 Pint, \$2.85**  
**1/2 Gallon                  \$9.25**

**PEST-B-GON Insect Dust.** Contains 10% DDT. Kills many Thrips, Plant Bugs, Beetles, Worms, Leafhoppers—Fleas, Bedbugs, Roaches, Silverfish, Ants.

**10-oz. Duster Package..... 69c  
2-lb. Package..... \$1.00**

**PEST-B-GON Wettable.** Wettable DDT  
Powder..... 1 lb. \$1.00

**ORTHO'S**  
**Rose Spray Kit.** Special Combination

Chlor. Contains 2-oz. ~~some~~ **EXTRA**  
for *Aphis* and other insects and 2-oz.  
bottle "**Greenol**" to prevent certain  
Powdery Mildews. Makes 12 gallons  
spray. Used for vegetables, too.

**Each Kit, \$1.00**

**CALTOX Garden Dust "525".** Especially useful on Tomatoes, Potatoes, Cucumbers, Squash and Melons. Contains Cryolite, Copper and Zinc.

10-oz. Dual Purpose Package..... 60c

**VOLCK Oil Spray.** Envelops, wets and smothers many sucking insects. Also spray carrier for other sprays.

4-oz. Bottle, 35c      1-Pint Bottle, 70c  
1-Gallon Can . . . . . \$2.85

# WITH ORTHO PRODUCTS

Years of scientific research are behind every Ortho product. You can be certain of top quality and dependable standards when you use Ortho.



**Garden Spray Set.** For use against more prevalent Garden Insects.

Set contains 4-ounce bottle of **Extrax** Insect Spray, **Greenol** Liquid Fungicide and **Volck** Oil Spray. Makes 25 gallons Multi-Purpose Spray. .... \$1.85

**ORTHO Garden Spray Set, JR.** 2-oz. bottles of **Extrax**, **Greenol**, **Volck**. \$1.20

**BOTANO Garden Dust.** For use against many insects and diseases. One of the safest multi-purpose dusts that can be used. 10-oz. size also serves as handy garden duster. Includes Rotenone and Pyrethrum.  
10-oz. Duster ..... 60c

## A Complete Rose and Garden Dust

**—ROSE DUST**—The most popular dust in the Northwest! Dust regularly with Rose Dust for practically all insect pests and plant diseases. It's easy to use in the handy duster carton.

**8-oz. Duster, \$1.00**   **1-lb. Refill, \$1.25**

## Pellets Go Four Times As Far!

**BU-GETA PELLETS**—For use against Principal Foraging Pests.

Slugs, Snails, Cutworms, Earwigs, Grasshoppers, Strawberry Root Weevil. Baiting against these pests is easy with the new **Bug-Geta Pellets** Compressed Baits. 5000 baits in a 2-pound carton.  
**12-oz. Carton, 35c**   **2-lb. Carton, 75c**  
**5-lb. Carton, \$1.50**   **25-lb. Bag, \$5.60**

**APPO Cutworm Bait.** A new poisoned Apple bait. Kills Cutworms, Strawberry Root Weevil; also Vegetable Weevil, Slugs, Snails. .... **1-lb. Carton, 45c**

**ORTHO-PET FLEA POWDER**—The new flea powder that is safe for both dogs and cats. Endorsed by dog and cat breeders throughout the country.  
**4½-oz. Puffer Package** ..... **35c**

**SCRAM**—A special powder used to keep dogs away from shrubs, flowers, lawns, store fronts, porches, etc.

**8-oz. Shaker, 50c**

**ORTHOL Garden Spray.** (Garden Volck with DDT.) Kills Aphids, Thrips, Mealybugs and many other insects.

**4-oz. Bottle, 35c**   **16-oz. Bottle, 75c**

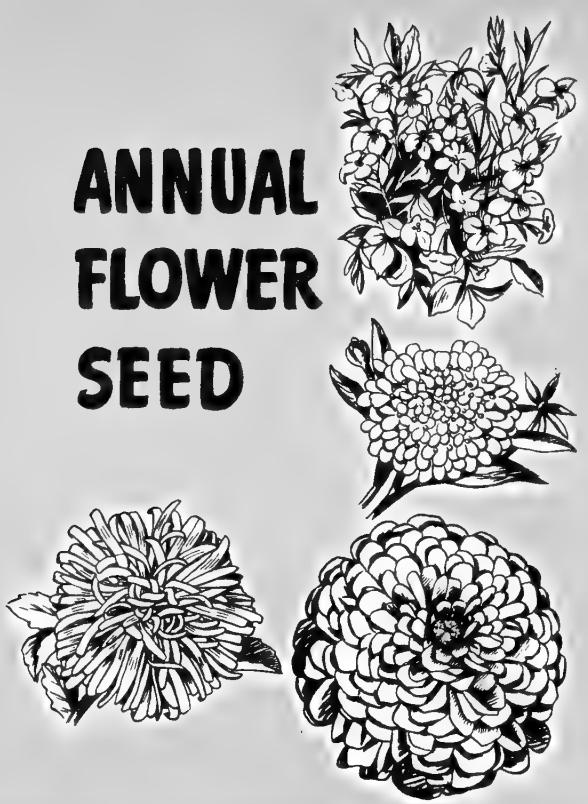
**GREENOL Liquid Fungicide.** A copper fungicide used to prevent Powdery Mildew. .... **1 Pint, \$1.50**  
**4-oz. Bottle, 60c**   **½ Gallon, \$5.00**

**ORTHO "BORDO" Mixture.** Prepared Bordeaux Mixture. .... **1 lb., 40c**

**FLOTOX Garden Sulfur.** Finely powdered. Use as a dust or spray.  
**26 ozs., 35c**

**CONTAX Sealing Compound.** Protect cuts and tree wounds. Also has many other uses. .... **1 Gallon Can, \$1.50**

# ANNUAL FLOWER SEED



**ASTERS** are among the most useful, decorative, late summer plants for the amateur gardener. They are easily grown requiring only a normal amount of care for the abundance of flowers they will give in return. In warm sections seed can be sown directly in the garden after first frosts. Here in the Northwest they should be started in flats indoors and plants set out about the middle of May or thereabouts.

Asters prefer a rich soil rather than a sandy loam. They should be cultivated regularly and watered before the soil becomes too dry. Every plant must have plenty of space to develop fully without being crowded. The tall branching variety should be set about 15 to 18 inches apart each way and the medium growing sorts 10 to 12 inches apart, while the dwarf types can be as close as 8 to 10 inches.

**Improved Crego Wilt-Resistant Aster.** Beautiful, large colorful flowers 4 to 5 inches in diameter. Blooms are fully double, about 2½ inches thick, carried on long, strong stems. The individual petals are gracefully curled and twisted, giving the whole flower an artistic appearance not unlike a Japanese Chrysanthemum. Plants grow about 2½ feet tall and bloom from late August until the middle of October. Colors: **White, shell pink, deep rose, crimson, orchid, azure blue, purple, lavender and mixed.** Packet 10c.

**Improved California Sunshine Aster.** The flowers are 4 to 5 inches across, are composed of a single row of loosely placed outer petals, which contrast with the unique yellow quill-like center disc. Stems are long and heavy, on plants 2 to 3 feet in height. **Mixed.** Packet, 10c.

**Super Giant El Monte Aster.** Deep glowing crimson blooms composed of daintily interlaced bloom-like petals somewhat similar in form to Giant California, but earlier and much larger. The huge flowers are borne on unusually heavy, non-lateral base-branching stems. **Packets, 10c.**

**Super Giant Los Angeles Aster.** Same type as the El Monte, however, the color is a pure shell pink blending to creamy pink in the center. **Packet, 10c.**

**AGERATUM (Flossflower).** An attractive herbaceous annual and one of the most popular summer flowering plants grown from seed. It is covered with blossoms from early summer until frost and excellent for borders, edgings, or pots. Combines with Columbines, Pink Sweet Williams, French Marigold and Salpiglossis. Varieties: **Blue Perfection Medium**, grows 8 inches tall, compact plant bearing large vivid dark purple flowers, freely produced; **Midget Blue**, a very fine dwarf only 2 to 3 inches high. Growth is very uniform and even, the entire plant is practically smothered with small blue flowers; **Little Dorrit**, white, midget, **Packet, 10c.**

**ALYSSUM.** Annual and perennial, easily grown from seed in any good garden soil and especially suited in rockeries and edges in open sunny situations. The foliage tends to be grayish and the flowers are white, violet or yellow. Grows best in rich, light, well fertilized loam. Combines exceedingly well with Violets, Forget-me-nots, Gypsophila. Varieties: **Benthami Martiumum (hA)** Sweet white, honey scented, grows 1 foot tall; **Little Gem (hA)** grows 4 inches, the plants are covered with snow-white blossoms; **Gold Dust (Saxatile Compactum) (hP)** a perennial yellow type, growing 1 foot tall; **Violet Queen (hA)** a beautiful, fragrant sweet Alyssum of bright clear violet hue, holding its colors throughout the hottest, driest summer. Considered best violet all-season edging plant. **Packet, 10c.**

**BALLOON VINE** (Love in a Puff). (hA). Excellent for covering wire fences or trellises, with support will grow to a height of 10 feet. The seed pods are inflated like balloons, and each black seed is marked with a white, heart-shaped spot. Quick growing vines are graceful with their deeply cut leaves and small white 4-petaled flowers. Seed should be sown where the plants are to grow. Prefer a light soil and sheltered spot.

Packet, 10c.

**BALSAM** (Lady Slipper). (hA). Requires a fertile but light, sandy soil. Grows 2½ feet. Its double blossoms, from white to red, purple or yellow, are borne close to the stems and overtopped by leafy shoots. Combined with Alyssum or Verbena, is best used as a border subject.

Packet, 10c.

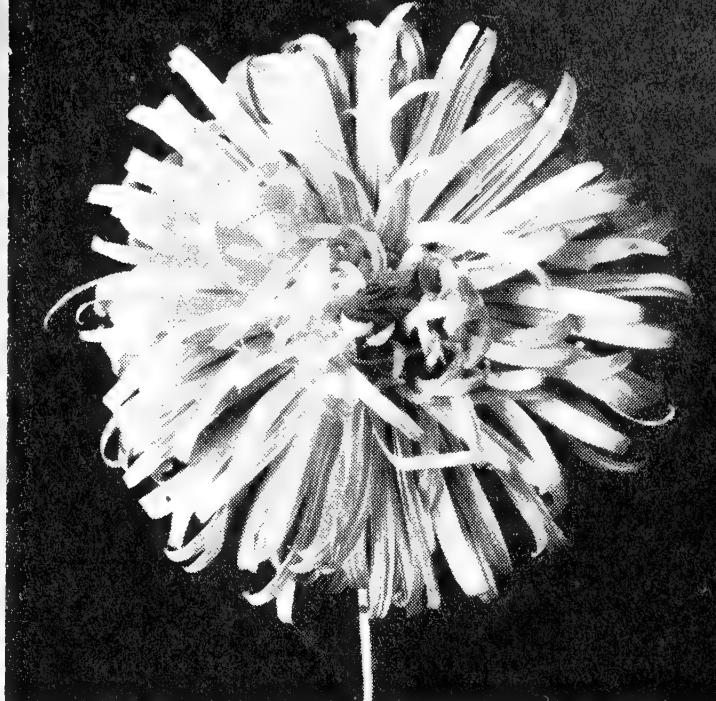
**BARTONIA** (Blazing Star). (hA). Its large, single, fragrant, 5-petaled, light yellow flowers with bristling stamens open late in the afternoon during July and August. The foliage, in contrast to the blossoms, which produce a metallic effect in the sunlight, is gray and downy. Grows 3 feet tall, flowers 3 to 4 inches across.

Packet, 10c.

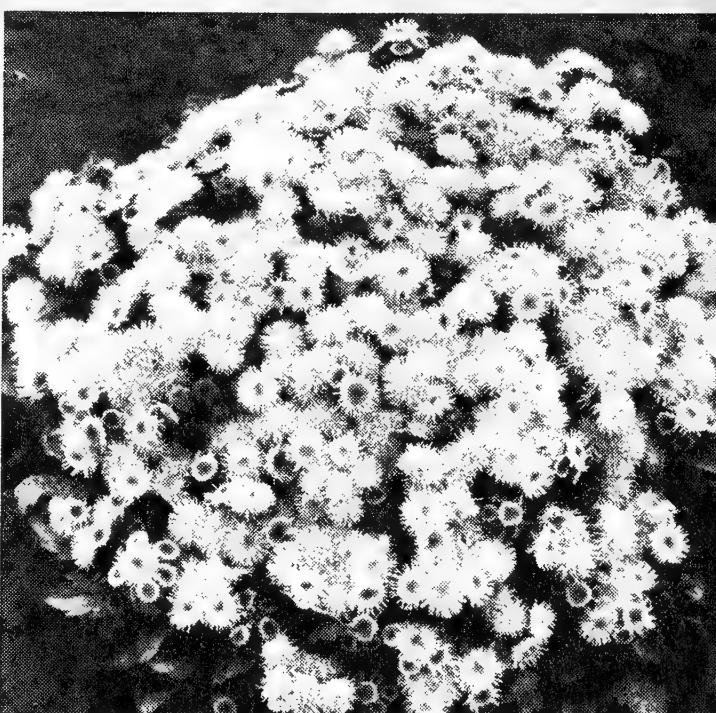
**BRACHYCOME** (Swan River Daisy). (hA). Grows 10 to 18 inches tall with branching stems, making an excellent plant for the rock garden or border, or for edging. Its deeply cut, lacy foliage, compact growth and free flowering quality make it a garden favorite. Mixed colors.

Packet, 10c.

**BACHELOR'S BUTTON** (Corn Flower). (hA). This old-fashioned hardy annual is very easily grown from seed and is still a great favorite for cutting purposes. Sow the seed in either autumn or spring. Height, 2 to 3 feet. Hardy, rather thistle-like flowers, fine for cutting and border planting. Bloom from early summer until hard frost. Varieties: **Jubilee Gem**, splendid for edging, borders, or cutting. Tidy compact plant, covered with double, rich blue blossoms. **Blue Boy**, excellent rich blue, tall with strong stems. **Double Rose**, same as Blue Boy except in color. **Double Mixed**. Packet, 10c.



ASTER . . . Improved Crego



AGERATUM . . . Midget Blue

#### CALENDULA



**CALENDULA** (Pot Marigold). (hA). This is one of the easiest annuals to grow; blooms from May to frost. Plants are from 1 to 2 feet high. Does well under average soil conditions, but responds to a moderately rich loam and in either full sun or semi-shade. Easily started from seed sown in the spring. Grouping—for bedding out; in front of shrubbery; for the mixed border combining with Delphinium, Shasta Daisy, Salvia or Alyssum. Varieties: **Orange Shaggy**, deep orange shading to lighter center. **Balls Orange**, bright orange shades; **Lemon Queen**; **Double Mixed**. **Packet, 10c.**

**CALLIOPSIS** (hA). Graceful for border plant, supplying throughout the summer an abundance of showy flowers of yellow, crimson and maroon. Growth from six inches to one foot. Seed sown in early spring to summer. Grows in any soil, but prefers a rich, light, well fertilized loam. Grouping—with Coreopsis, Deep-blue Delphinium, Snapdragons and Salvia. Varieties: **Golden Crown**, a rich orange-yellow with a pleasing fragrance. Nice for cuttings, with 12-inch wiry stems. **Drummondii** (Golden Wave). Yellow with circle of crimson-brown around the eye. **Tall Semi Double Mixed**. **Packet, 10c.**

**CANARY BIRD VINE** (*Tropaeolum*). (hA). This vine bears curiously cut yellow flowers with curved green spurs, the entire blossoms vaguely resembling canary birds in flight. **Packet, 10c.**

**CANDYTUFT** (*Iberis*). (hA). Very showy, branching plant, growing 12 to 15 inches. Excellent for beds, masses, rock gardens and cut flowers. Blooming prolifically in spring, and during other seasons by successive sowing of seeds. Grows in ordinary soil, in sun and slight shade. Varieties: **Coronaria**, giant white hyacinth flowered; **Umbellata Type**, **crimson, rose, white, lavender and mixed**. **Packet, 10c.**

**CARDINAL CLIMBER** (*Lobelia cardinalis*). (hA). Growth 2 to 4 feet. Erect, smooth, glistening plant with large, dark-green lanceolate leaves. Racemose spikes of rather large, slender-tubular, intense cardinal flowers. Blooms July to September. Accent plant in rockery, near pools, in perennial border. **Packet, 10c.**

**CELOSIA CRISTATA** (Cockscomb). (hA). Erect plant, with large leaves, curious spikes of crested or plump, brightly colored fascicles, the effect extending from July until late in the fall. Growth 9 to 18 inches. Requires a moist, rich soil and sun. Should be planted by themselves in beds, in flower borders, or in front of shrubs with dark-green foliage. Sow seed in early spring. Varieties: **Cristata** **Tall Crimson**; **Celosia Plumosa Fine Feathered Mixed**. **Packet, 10c.**

**CHRYSANTHEMUM** (hA). Attractive long stemmed summer flowering plant, wide varieties of color. Sow seeds in flats and transplant when soil is warm, or sow seeds outdoors after all danger of frost has passed. Plant in rich soil. Grows 18 to 24 inches in height. Blooms profusely throughout the summer months and into the late fall. Varieties: **Coronarium**, tall double mixed. **Carinatum**, single mixed. **Packet, 10c.**

**CLARKIA** (hA). Popularly known as the Rocky Mountain Garland because in form and color it resembles a garland of almond blossoms. Easily cultivated in sunny locations in any light garden soil. It produces graceful, showy blossoms delicately rose or purple. Excellent for mass planting. Plant with Larkspur, Pansies, Nicotiana or Virginia Stock. Varieties: **Scarlet Queen**, **Salmon Queen**, **White, Single Mixed, Double Mixed**. **Packet, 10c.**

Thompson's  
**VITAMIN B-1 PLUS**  
PELLETS

**CHINESE WOOL FLOWER** (*Celosia Childsii*). Plants grow 2 to 3 feet high, are freely branching and bear in profusion, elegant bell-shaped, wool-like flowers of scarlet and purplish crimson.

Packet, 10c.

**COSMOS** (hA). Erect, branched, smooth plant, with finely dissected leaves; medium to large single and double flowers, ranging in colors from white to rosy-lilac. Reaches a height from 3 to 10 feet. Thrives in average soil, but preferring a light, rather poor texture, and flourishing in either sun or partial shade. Seed sown in the open ground in April should bloom in July, and will furnish an abundance of cut blooms during the early flower season. Plant between shrubs; in the background of the mixed border, combine with Shasta Daisy, Lavender, Michaelmas Daisy. Varieties: **Klondyke Orange Flare**, deep orange, blooms early; **Early Double Crested** (anemone flowered) mixed; **Early Flowering Mammoth**, light pink, crimson, mixed. Packet, 10c.

**CUT FLOWER MIXTURE.** A mixture of easy growing annuals. Assorted colors.

Packet, 5c.

**DAISY—African Blue Daisy** (*Arctotis*). (hA). Branching plant, with thick, gray-green woolly leaves; wide, daisy-like, white-lilac blue narrow-petalled flowers. Growth 2 to 3 feet. Blooms from June to December. A sun loving plant. Does best in rich, light, well fertilized garden loam. Important in the mixed border, combining with Snapdragons, Stocks, Larkspur, Godetia, Heuchera.

Packet, 10c.

**HELICHRYSUM** (Everlasting Straw-flower). (hA). Flowers of papery quality which are extensively used for permanent winter bouquets because when they are dried they retain their form and color. Easily grown in a sunny spot in ordinary soil. **Mixed.** Packet 10c.

**EUPHORBIA VARIEGATED** (Snow on the Mountain). (hA). Growth 2 to 3 feet bearing an abundance of beautiful green foliage, broadly marked with silvery-white and bearing small flowers. Very attractive and ornamental and can be planted as background for lower growing plants or in the mixed borders. Sow seeds outdoors after frost is over in place where plants are to stand. Sunny exposure is best.

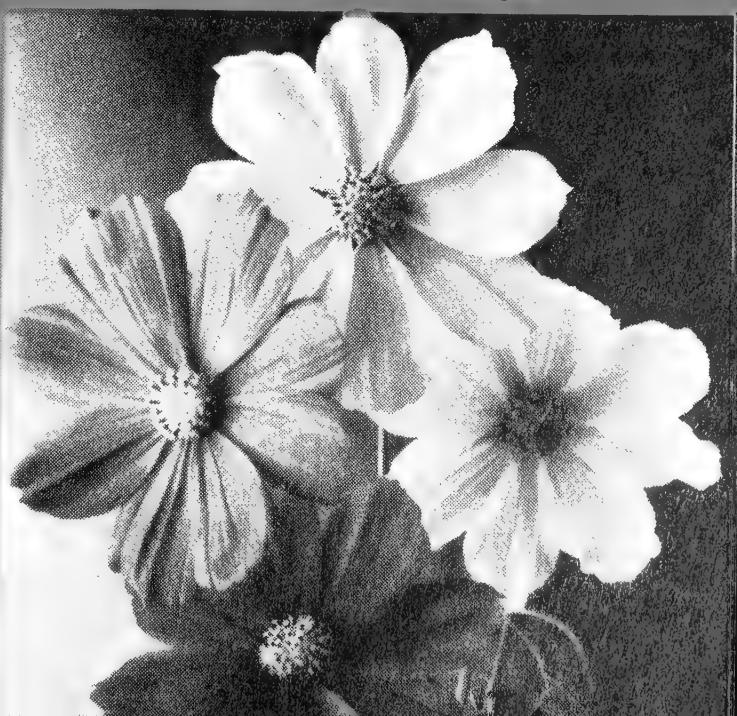
Packet, 10c.



CALLIOPSIS



COSMOS . . . Double Crested



COSMOS . . . Single

**FOUR O'CLOCK** (Marvel of Peru). (hA). Does not open its flowers until about 4 o'clock except on dull, cloudy days. Well branched plant about 3 feet tall with bright foliage and fragrant long-tubed blossoms of white, red, yellow. Blooms from July to frost. Excellent for planting in front of porch or fences. Will reseed themselves. **Tall Mixed.**

Packet, 10c.

**GODETIA** (Satin Flower). (hA). Grows from 1 to 2 feet tall in sunny or slightly shady places. Erect, slender branching plant; bright green, lanceolate leaves; large, expanded, single and double, satiny flowers, white, crimson, pink, mauve, to purple. Seed should be sown in flats, transplanted when soil is warm. Grows in rather poor, sandy soil. Grouping—generally looks best alone, can be combined with Clarkia, Larkspur, certain Snapdragons and Stocks. Varieties: **Tall Double Azalea Flowered Mixed.**

Packet, 10c.

**GYPSOPHILA** (Baby Breath). (hA). These light airy plants have a hair-like foliage and produce a very lovely effect in the garden. Excellent with bouquets. Sow seed outdoors in early spring, repeat sowings for longer season of blooms. Thrive in most moderately rich soil. Does well in rockeries. Varieties: **Grandiflora Alba**, true white; **Grandiflora Rosea**, pink; (Perennial) **Paniculata Alba**, single white.

Packet, 10c.

**HELIOTROPE** (hhA). Well known and much admired as border and bedding plant and also can be trained for a climber, growing from 1 to 6 feet high. Flowers borne in trusses and are very fragrant, blooming beautiful shades of lilac and lavender. Blooms profusely in summer. Prefers a rich, light loam.

Packet, 10c.

**HYACINTH BEAN** (*Dolichos Lablab*). (hhA). A splendid, rapid growing climber, attains a growth of 12 to 20 feet. Bears clusters of hyacinth-like flowers in great profusion, followed by beautiful ornamental seed pods. **Mixed.**

Packet, 10c.

**KOCHIA CHILDSII** (Mexican Fire Bush). (hA). A fast-growing, shrub-like ornamental. The small but dense foliage, which is a clear bright green in spring, and a somewhat deeper shade all summer, turns bronze-red after frost. The plants grow from 1½ to 4 feet tall and are compactly pyramidal or rounded. They are of easy culture in moderately rich soil. Their formal shape and uniform size adapt them for use as a temporary hedge or tall border for walks or drives. **Packet, 10c.**

**LANTANA** (hA). Low, compact, full flowered varieties whose flowers in flattish clusters vary or change from brilliant yellow through orange to red. Widely grown as a greenhouse subject, being easily raised from either seed or cuttings, it is excellent as a summer bedding plant, blooming continuously until nipped by the frost in the fall.

Packet, 10c.

**LARKSPUR** (hA). Grows from 3 to 4 feet in sun and light shade. Erect, bushy plants, with light green, finely dissected leaves. For earlier blooms, plant in flats and transplant. Prefers a rich, well fertilized soil. Use a complete plant food. Varieties: **Giant Imperial Blue, White, Lavender, Rose, Carmine, Mixed.**

Packet, 10c.

**LOBELIA** (hA). Grows 6 to 12 inches in sun or light shade. Trailing, or compact, bushy plants; variable, dark-green, bronzed, or light-green leaves. Irregular, small tubular flowers, borne on slender pedicels, varying from light to dark blue. Excellent for borders, rock work and hanging baskets. For best results sow thinly in flats, covering with glass until seedlings are through soil. Transplant into a moist, well fertilized bed. Grouping—Gold Tuft, Iceland Poppy, Coreopsis, Siberian Wallflower and Pot Marigold. Varieties: **Crystal Palace**, compact form with deep blue flowers. **Sapphire**, sapphire blue, white eye, trailing.

Packet, 10c.

**LINARIA** (Miniature Snapdragon). (A). Flower resembles miniature Snapdragon and in addition has a long Columbine-like spur. Blooms in about eight weeks after sowing. Height 12 to 18 inches. Flowers come in a wide variety of pastel shades. Blooms profusely and continuously until frost. **Mixed.** **Packet, 10c.**

**LINUM** (Flowering Flax). (hA&P). Growth 1 to 2 feet. Sun and light shade. Erect, branching freely, with slender branches and flower stems; numerous broadly lanceolate to oblong, sessile, smooth and shining leaves; terminal, salver-shaped flowers blooming in summer until frost. Easy to grow from seeds sown in early spring. For the mixed border combining with Larkspur, Verbena, Heuchera and Ageratum. Varieties: **Annual Scarlet**; **Perennial Blue**.  
Packet 10c.

**MARIGOLDS** are truly the amateur gardener's best friend. They are both hardy and colorful, which makes them ideal for all types of garden work. Blooms start early in July and continue until late fall. They are free from or withstand disease better than most other annuals. These showy annuals may be raised by sowing seed in the open garden as soon as the soil is warm, but a more certain method of procuring fine plants is to sow the seed in flats or hot beds about the first of March.

**Crown of Gold.** Individual plants deviate very little from the average height of 24 inches. The lower branches are clustered near the ground level, while the higher branches are sub-opposite or alternate on the main stem. The plants are extremely floriferous, which gives to a plant the appearance of a large orange top with a green base.  
Packet, 10c.

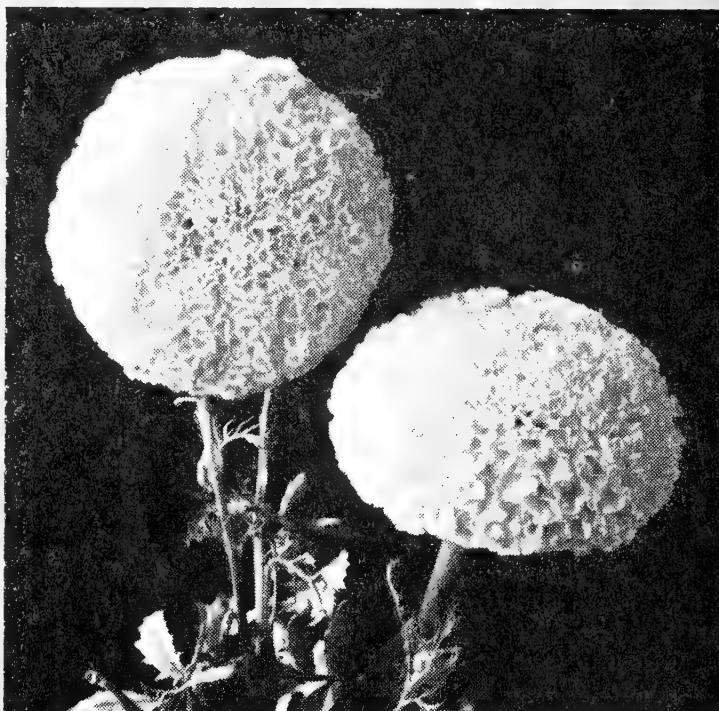
**Sunset Giant.** The very largest Marigold yet developed, blooms reach a size of 5 inches in diameter. The definite sweet scent of the flowers adds to its value as a cut flower, as well as being a good garden plant. The plants are extremely robust, producing a heavy growth of foliage, with 6 to 8 heavy branches each bearing 3 to 6 flowers. The plant grows from 3½ to 4 feet.  
Packet, 10c.

**Signata Pumila Little Giant** is the smallest Marigold yet developed, grows, but 9 inches tall. These dainty plants make an excellent border as their brilliant golden yellow flowers bloom profusely throughout the entire summer up until late fall.  
Packet, 10c.

**Dwarf French Double Scarlet Glow.** Mahogany turning to orange scarlet.  
Packet, 10c.

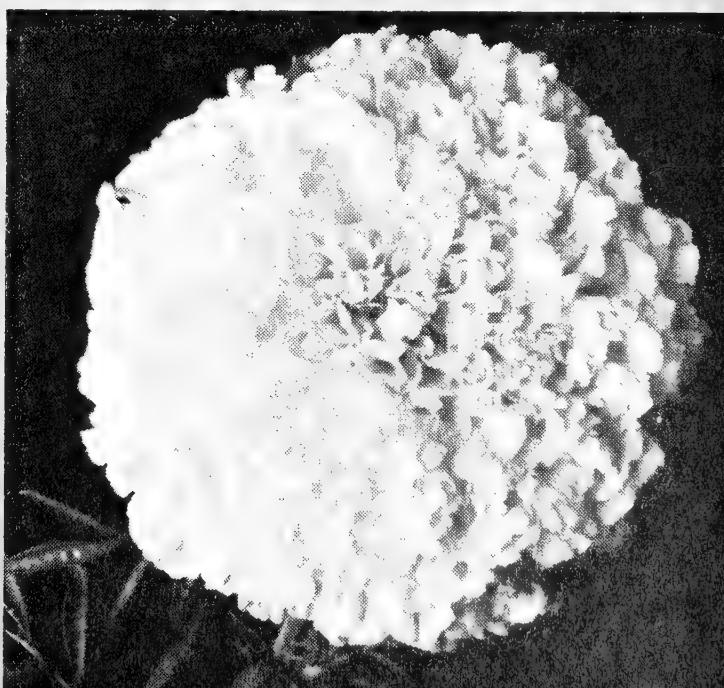


**LARKSPUR . . . Giant Imperial**



**MARIGOLD . . . Tall African**

**MARIGOLD . . . Sunset Giant**



**Harmony French Dwarf Double.** The neat, dwarf, compact growth, combined with the extremely early, free flowering character of the plants makes this new dwarf Harmony Hybrid one of the outstanding introductions of the season. Flowers are medium size, rather large for the French type, averaging 1 $\frac{3}{4}$  inches in diameter and do not have the strong Marigold odor. The color range includes the popular yellow and innumerable blotches and striped combinations of golden orange and maroon, and various shades of golden and lemon yellow with the contrasting dark maroon. Plants reach a height of 12 to 14 inches.

Packet, 10c.

**Tall African Double.** An especially fine tall (3 feet) branching, bearing enormous flowers of the quilled type. **Orange, Lemon and Mixed.**

Packet, 10c.

**MIGNONETTE** (Reseda). (hA). Adaptable and growing in either full sun or partial shade, thrives best in cool moderately rich soil. From 6 to 15 inches high. Its vigorous branches spread gracefully and are well clothed with rather heavy, dark green leaves. Plants should be started from seed in the open ground, for they grow quickly and dislike transplanting. Blooming period is from June to frost. Blooms are exceedingly fragrant. For the annual and perennial borders, combining freely with most flowers. Varieties: **Odorata Grandiflora**, white; **Victoria Perfecta**, brilliant red.

Packet, 10c.

**MOONFLOWER** (Ipomoea). Annuals, but mostly perennials in cultivation. Splendid rapid growing climber. Flowers are beautiful and varied, resembling giant Morning Glories. Foliage is luxuriant and makes a growth of 10 to 30 feet a season. Seed should have outer shell punctured and then soaked in water for 36 hours to germinate it. The large white fragrant flowers expand at night and early morning and the plant blooms June-September. Suitable for covering garages, outhouses, fences, pergolas, etc. Cut down each fall for new growth.

Packet, 10c.

**MORNING GLORY** (hA). Their large, dark green, heart-shaped leaves make an excellent screen and the trumpet-shaped flowers are borne in great profusion all summer. Rapidly growing in almost any moderately rich soil. Seed should be sown after danger from frost is passed, germination is hastened by filing small holes or notches through the horny coat.

Varieties: **Heavenly Blue**, sky blue shading to white in throat. **Scarlet O'hara**, flowers earlier and is able to climb without assistance, stunning 3 $\frac{1}{2}$ -inch flowers of a soft velvety scarlet. Foliage is distinct and the flowers stay open longer.

Packet, 10c.

**NASTURTIUM** (hA). Includes climbing and dwarf herbs with showy red, orange or yellow, funnel-shaped flowers consisting of 5 separate petals, the sepals produced into a long spur containing nectar. Has fleshy stems, shield-shaped leaves and bright blossoms which are produced continuously throughout the summer. Seed is sown in the open in the spring. Plants will bloom most prolifically if given a rather poor soil in a North exposure.

**Glorious Gleam.** Color range: salmon, golden yellow, orange scarlet, cerise, cream, orange, maroon and crimson shades, as well as many spotted varieties.

Packet, 10c; ounce, 50c.

**Golden Gleam** Nasturtiums are semi-dwarf bearing sweet-scented golden yellow flowers on stems well above the bright green foliage.

Packet, 10c; ounce, 50c.

**Scarlet Gleam** Nasturtiums are semi-dwarf, bearing the flowers well above the bright green foliage on long, wiry stems. Fiery orange-scarlet flowers that are fully double, very large, sweet scented.

Packet, 10c; ounce, 50c.

**Mixed.** For those who still prefer the good old fashioned type, we offer the **Dwarf Mixed** and the climbing or **Tall Mixed**.

Packet, 10c; ounce, 35c.

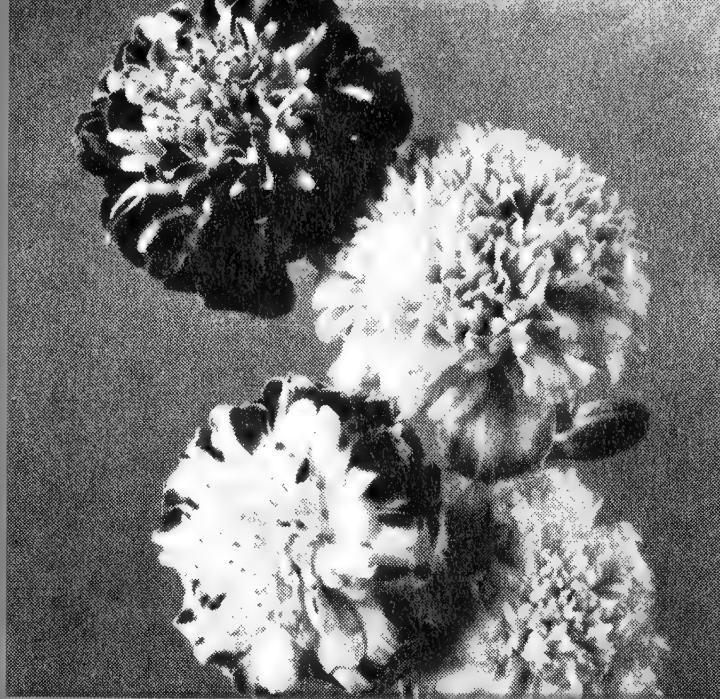
**NEMESIA** (hA). Growth 8 to 12 inches. Has bright yellow, orange and red blossoms, resembling those of snapdragons in miniature. Seed may be planted in flats in March and set out the end of May for early blooms, or may be sown out doors after danger of frost has passed. They should be set close so that the frail stems may support one another. Very effective in window boxes. Grows best in rich, well fertilized, light garden loam. Can be grouped with Clarkia, Salpiglossis, Snapdragons. **Mixed.** **Packet, 10c.**

**NEMOPHILA** (hA). Grows 6 inches high. If seeds are grown early in spring in a semi-shaded spot in the border, or on the edge of the wild garden, the small bright flowers will appear continuously all summer. Has wide-open or broadly bell-shaped blossoms held on short stems above prettily cut leaves. Seed may be sown from October to March. **Blue.** **Packet, 10c.**

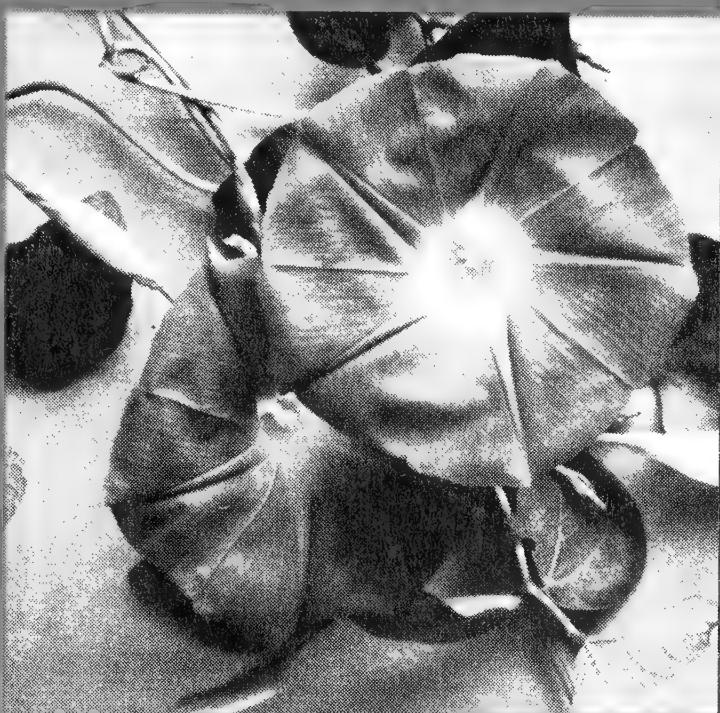
**NICOTIANA** (Flowering Tobacco). (hA). These stately plants are very fine for back-ground in an annual bed. Produces large, trumpet-shaped blooms until frost. Sow seed March-June in rich moist light loam. Grow from 3 to 5 feet. **Crimson, White, Mixed.** **Packet, 10c.**

**NIGELLA** (Love-in-the-Mist). (hA). Grows to 1½ feet and has pale blue or white flowers surrounded and partially concealed by the finely cut green leaves. The flowers which last well when cut, are most attractive in mixed bouquets. Seed can be sown in the spring as early as the ground can be worked.  
**Packet, 10c.**

**PANSY** (*Viola Tricolor*). (hA). Has long been grown in beds and borders because of its ease of culture and the wonderful diversity in color and markings. They do well in any good light soil, but prefer a sandy, loamy deep planting where they will not be overshadowed by trees or too much exposed to hot dry sun. Planting is best performed in spring or early autumn; it is advisable to sow in June for transplanting in autumn and in late August for the early spring transplants. Sow seed in light soil, cover slightly, and transplant to boxes as soon as large enough. Low growing and

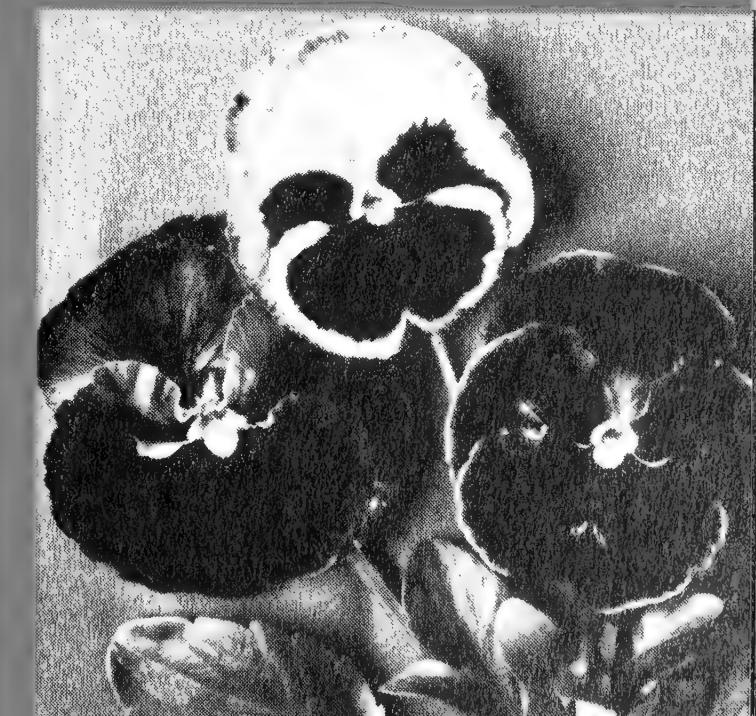


**MARIGOLD . . . Harmony**



**MORNING GLORY . . . Heavenly Blue**

**PANSY . . . Oregon Giants**



blooming from March into fall. Used in mass plantings in the flower border in combination with Alyssum saxatile, Columbine, Yellow Snapdragons, Stocks and Marigolds. Varieties: **Cornflower Blue; Golden Queen**, pure yellow; **King of the Blacks**: Packet, 25c. **Swiss Jumbo Mixed**. Packet, 25c. **Oregon Giant Mixed**.  
Packet, 10c.

**PASSIFLORA** (Passion Vine). (hA). Evergreen vine growing 10 to 20 feet or more. Grows in sun and partial shade. Rampant in growth, climbing by tendrils; entire or digitately lobed, glistening, light or dark green leaves; large, tubular flowers with flat, expanded corolla. Grows in any soil. Good for covering screens, covering trellises, arbors, etc.  
Packet, 10c.

**PETUNIA** (A). Very showy and popular plants, effective in beds, borders, porch boxes and pots. They thrive in a mixture of 2 parts of loamy soil and 1 part of leaf mold and require plenty of water during summer. The seeds, which are minute, should be sown in March in light, finely sifted soil, very lightly covered and given gentle heat. When large enough, pot singly, and pinch back the points before they get too high, to induce compact growth. For planting out these potted plants should be gradually hardened off early in May.

**Martha Washington** ushers in an entirely new version. The plants are about 9 inches tall. Frilled portion of flower is about 3 inches in diameter. It is a beautiful blush pink and center portion is strongly veined a rich wine red, deepening in the throat to dark violet. It comes exceedingly true to color and type.  
Packet, 25c.

**Miniature Petunias Rose Gem and Pink Gem.** These two charming types have filled a vacancy home gardeners have had for years. Where a low, solid bed of color is needed nothing does quite as well as these two varieties of miniature petunias. The plants are neat and compact, 5 to 6 inches in height and smothered with richly colored blossoms about 2 inches in diameter. **Rose Gem; Pink Gem**.  
Packet, 25c.

**Dwarf Giant of California** are the largest of the single flowering petunias. The flowers of crimson, white, lavender, violet and pink, are completely ruffled with large, graceful throats. Excellent in beds by themselves or grouped with Dwarf Lobelia. **Mixed**.  
Packet, 35c.

**Bedding Petunias:** Varieties: **Balcony Blue**, **Balcony White**, **Balcony Red**, **Rosy Morn**, **Single Mixed**.  
Packet, 10c.

**Elks Pride Dwarf.** Deep Purple.  
Packet, 25c.

**PHLOX DRUMMONDI** (hA). One of the most beautiful and easiest grown of our hardy garden annuals. The flowers are produced in large trusses. Grows 8 to 10 inches. Required a sunny position. Bushy, branching plant with linear-lanceolate, bright-green leaves. Sow seed in March in a rich, moist, well fertilized, light loam for best blooms. Blooms from July to October. Used as a cover plant in rose beds, in the foreground of the shrub border, in large mass plantings in the flower border, or combined with Verbenas, Petunias, Gypsophila, Snapdragons. Varieties: **Rose; Scarlet; Salmon; Crimson; Mixed**.  
Packet, 10c.

**PINKS** (Dianthus). (A). Grows from 10 to 14 inches high, and bear beautifully colored single and double blossoms in profusion all summer. Blooms are very sweet smelling. For best results seed should be sown in flats and transplanted when soil is warm. Requires a rich, light, fairly moist garden loam well fertilized. Largely used for borders or massed in beds. Excellent for cut flowers. Grouping—can be planted in separate beds or with Snapdragons, Stocks, Carnations, Sweet Williams, Petunias. Varieties: (Annuals) **Chinensis**, flowers produced in clusters, medium sized, fragrant flowers with fringed petals. **Single Mixed; Double Mixed**. **Hedewigi**, velvety flowers, **Double Scarlet**, **Double White**, **Double Mixed**, **Single Mixed**.  
Packet, 10c.

**PORTULACA** (Rose Moss). (hA). An exceptionally fine flower for dry sunny spots where most plants are unable to thrive. A dwarf plant only 6 inches in height that blooms profusely from June to August. Brilliant colors of red, yellow, pink, white, and striped. Sow seed in

May, when the ground is thoroughly warmed. In sowing mix seed with many times its bulk in dry sand. Requires a fairly rich sandy loam and the hottest position to give the best results. Used on narrow borders or on dry embankments. Plant alone. Varieties: **Single Mixed** and **Double Mixed**. **Packet, 10c.**

**SALPIGLOSSIS** (Painted Tongue). (hA). One of the easiest of annuals to grow. Erect branching plants, reaching a height of about 2 feet. Produces funnel-shaped flowers  $2\frac{1}{2}$  inches long and wide of velvety texture and in many colors, including rich tones of purples, blues and reds; the interior of the blossoms is strikingly veined, giving a "paisley effect." Blooms from May until killed by frost. Sow in the full sun in fairly rich soil as early as possible and preferably in the place where they are to grow. **Mixed.** **Packet, 10c.**

**SCABIOSA** (Pincushion Flower). (hA&P). Are easily grown in an open sunny position from seed started indoors or planted in the open ground in May. Grow  $1\frac{1}{2}$  to 3 feet high. One of the most important annuals for cut flowers, blooms on long, slender stems, which are exceedingly graceful. Grouping—for the perennial and mixed borders combining with Ageratum, Gladiolus, Snapdragons, Perennial Phlox, Sweet Williams, Stocks and Columbine. Varieties: **Azure Fairy**, blue; **Fire King**, scarlet King of the Blacks, reddish black; **Loveliness**, pink; **Double Mixed**; **Blue Moon**, deep lavender blue; **Caucasica Hybrids**, perennial growing to 2 feet, with pale blue flowers. **Packet, 10c.**

**SCHIZANTHUS** (Poor Man's Orchid or Butterfly Flower). (hA). Very showy plant having finely-cut foliage and white, lilac, bluish, or pink flowers. Grows 1 to  $1\frac{1}{2}$  feet, blooms May to August. Sow seed in early spring in rich, sandy, well fertilized and sandy loam. **Mixed.** **Packet, 10c.**

HOTKAPS  
PROTECT  
EARLY  
PLANTS



**PETUNIA . . . Dwarf Giants**



**PETUNIA . . . Balcony**



**PHLOX Drummondii**

**SNAPDRAGONS** (*Antirrhinum*). (hA). Seed should be sown indoors in March or April. It may be slow to germinate, but after the true leaves have formed the growth is usually rapid. The small plants can be transplanted to the open as soon as danger of frost is over; they will flower from July until frost if the blossoms are picked as soon as they fade. Seed may also be planted in the open in August, and the seedlings transplanted to pots for winter bloom, or the plants can be covered with a mulch over winter to give earlier summer flowers.

To encourage the growth of flower-bearing side branches, the central bud should be pinched out when transplanting; followed by occasional pinching of other too-vigorous shoots, this will result in a compact oval plant covered with short racemes of flowers.

Rust, the most serious snapdragon disease, is found all over the United States on both greenhouse and outdoor plants. Dusty, chocolate-brown pustules (spore masses) are produced on the under side of the leaves and on the stems. Weekly applications of a good copper spray during the rainy periods and fortnightly application in dry weather will effectively control rust if a start is made early in the season. Beds should be surface irrigated if possible, rather than watered with a hose or sprinkler so as to keep the foliage dry and prevent the spores from being spread by splashing water.

Snapdragons may be grouped, according to color with Scabiosa, Gladiolus, Larkspur, Delphinium, Columbine, Coral Bells, Michaelmas, Daisy, Clarkia, Chrysanthemum.

We offer the **Majus Rust Proof** variety in the following colors: **Butter Cup**, canary yellow, shading to creamy yellow; **Copper Shades**; **Pink Shades**; **Scarlet**; **Shasta White**; **Fiery Red** and **Mixed**.

Packet, 10c.

**STOCKS** (*Gillyflower*). (hA). Sturdy flower spikes (growing 1 to 1½ feet) covered with rosette blossoms in soft colors. Stocks require a rich soil of a sandy, well manured loam. Sow seeds in flats and transplant outside when all danger of frost is over. Seed will produce about 75% plants bearing double flowers. For a mass of all double flowers, set close together and remove the single flowered plants when first flowers appear. Stocks are outstanding garden favorites

because of their delicately colored spikes and fascinating penetrating odor. Grouping—Effective in both the annual and mixed borders, grouped alone, several varieties together, or combined with Daffodils and Narcissus, Violas and Pansies. Varieties: **Double Early Giant Imperial**, very early blooming and grows 2½ feet tall; **Rose**, deep rose pink; **Elk's Pride**, royal purple; **Canary Yellow** (*Golden Ball*); **Blood Red**; **White**; **Mixed**. **Virginia Stocks**, grows 6 to 12 inches high and the pods are not horned, **Rose**; **Mixed**. **Evening Scented Stocks**, grown principally for the sweet perfume in the small, single mauve-colored flowers at twilight. **Mixed Packet, 10c.**

**SWEET SULTAN** (*Imperialis Moschata*). (hA). Grows 2½ feet tall. The artistic shaped, sweet-scented flowers are borne on long strong stems, when cut and put in water will last for several days in good condition. Sow seed in early spring in ordinary well fertilized garden soil to which lime has been added. Blooms June to September. Grouping—For the annual and mixed borders combining with Perennial Aster, Larkspur, Gypsophila, Scabiosa. **Mixed Packet, 10c.**

**SWEET PEAS** are essentially cool weather plants, and they quickly fade away if the temperature persists for long above 75°. In the sea-cooled areas of the Pacific Northwest, sweet peas can be grown successfully throughout the summer. An early start is highly important. The plants should be well established before hot weather arrives, but if the heat is extreme and persistent, nothing will keep the plants growing vigorously, though it is possible to carry the plants through July and even later if a cheese-cloth shading is erected over plants.

Sweet Pea seed is hard shelled, therefore better results can be obtained if the seed is soaked in water for a day or two before planting.

Dig a wide trench to a depth of 12 inches and after breaking up the bottom of trench fill in with several inches of peat or leaf mold to which add a liberal amount of bone meal; fill in the balance of the trench with good top soil. Tamp the soil down firmly and water thoroughly to the base. Let stand a few days until moderately moist. Never put the seed in too wet soil. Pulverize the surface well by raking, make rows and plant seed

about one inch deep, and two inches apart. Do not water until all the seed is up at least half inch.

Thin out at least six inches apart and train on wire or string netting when plants are five or six inches high. Applications of Vigoro during flowering period will add greatly to length of stems and size of blossoms. Keep well cultivated and water only as needed, as excessive moisture will cause the buds to drop. Treat seed with Hansen Inoculation.

Straight colors: **Packet, 10c; 1/2 ounce, 25c; 1 ounce, 45c.**

#### PINK AND CREAM

**Ascot.** Clear light rose pink. Very large blooms.

**What Joy.** Colorful primrose, shaded to soft cream.

#### ORANGE AND SALMON

**Barbara.** A beautiful shade of orange salmon.

#### RED AND MAROON

**Charming.** Brilliant blossoms of rose cerise.

**Welcome.** The most dazzling of all scarlets. Strong stems.

**Warrior.** Dark maroon.

#### LAVENDER, BLUE

**Austin Frederick Improved.** Ruffled pure lavender.

**Reflection.** A lovely sun-proof clear corn-flower blue.

#### WHITE

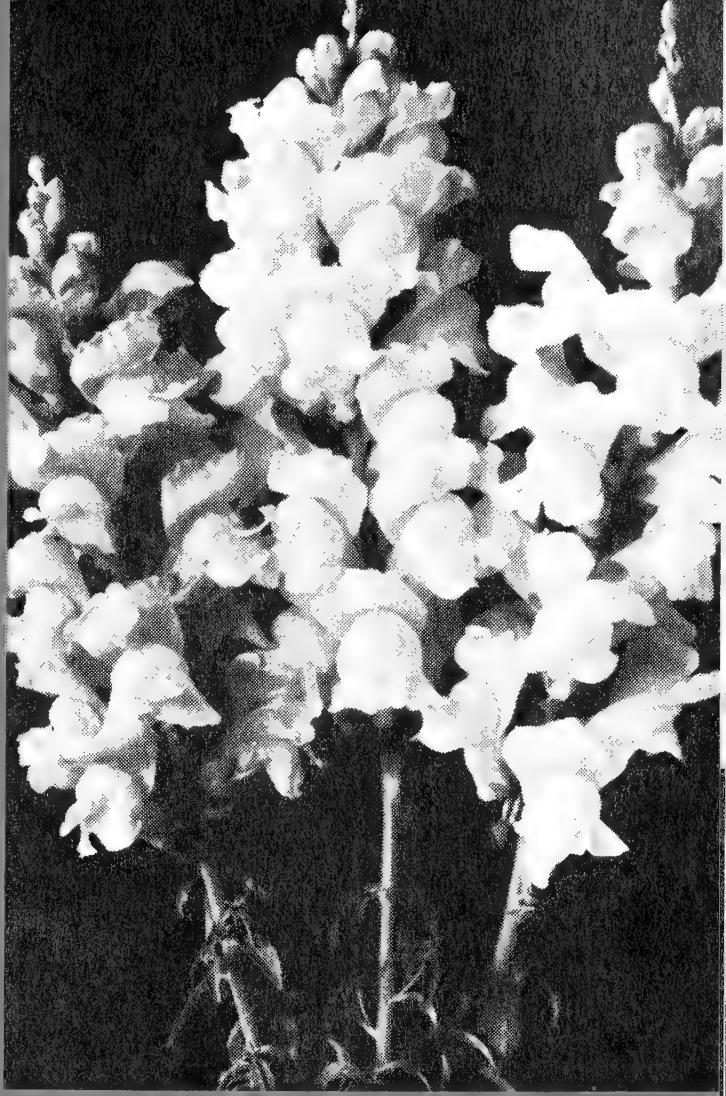
**Avalanche.** Glistening white of great substance.

#### GIANT RUFFLED SPENCER MIXED SWEET PEAS

**Packet, 10c; 1/2 ounce, 20c; 1 ounce, 35c.**

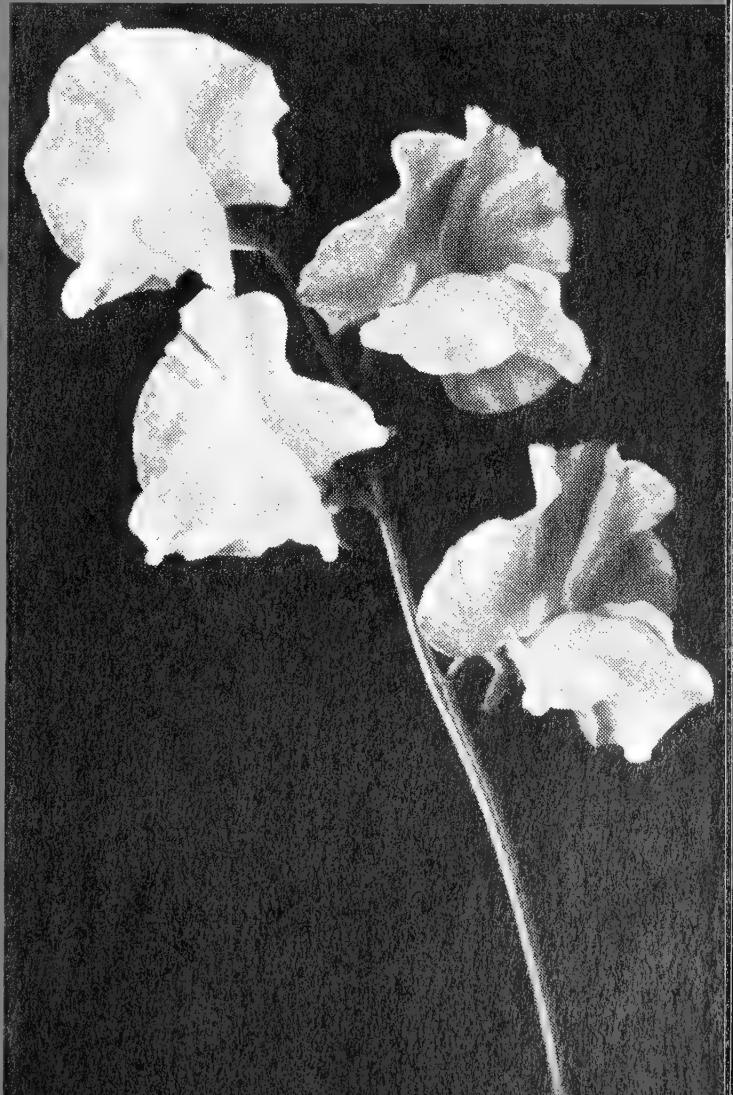
For complete information  
about the famous  
**DIAMOND QUALITY**  
**SWEET PEA COLLECTION**

See the back cover



**SNAPDRAGON . . . Majus**

**SWEET PEA . . . Spencer**



**ZINNIAS** (hA). Are one of the most satisfactory flowers to grow through the summer, as being a native of Mexico, it thrives in even the hottest weather if given plenty of fertilizer and a moderate amount of water. For best results, provide a rich, deep soil and give water when needed. Application of a complete fertilizer at 3 or 4 week intervals helps produce larger, more perfect flowers. Sow seeds indoors in flats, or they may be started in the open at the same time as other hardy annuals. Giant types should be no closer than 18 inches apart; this allows free branching and sturdy plant development. All types blossom from early summer until hard frost. Grouping—Makes a fine effect in mass plantings grouping together varieties that harmonize in color; in the mixed border combine with Anchusa, deep-blue Delphinium, blue Cornflower, Salpiglossis, African Marigold.

**Fantasy Zinnia** flowers are very informal in appearance, composed of a mass of shaggy, ray-like petals, which give a delicate, graceful effect, quite different from the stiff, formal Zinnias to which we are accustomed. Plants grow from  $2\frac{1}{2}$  to 3 feet tall. Blossoms are from  $2\frac{1}{2}$  to 3 inches in diameter. Mixed. **Packet, 10c.**

**Super Crown O'Gold Pastel Tints** are the very finest large flowered Zinnia introduction in recent years. Strictly a mixture of pastel tints, a wide range of shades, including soft yellow, old gold, light pink, apricot pink, various shades of salmon, peach and buff, lively cerise salmon, as well as pure white and cream. The plants are strong and robust, growing about 3 feet tall, and flowers are borne profusely through the season.

**Packet, 10c.**

**Dahlia Flowered** are strong and robust, growing about 3 feet tall and bear many long stems of showy, double, huge flowers. This type is preferred for general garden use, producing a very brilliant mass of color, in bright, intense shades. The flowers are more or less cup-shaped in appearance; the petals, instead of lying flat upon each other, are incurved, producing an upstanding, stiff, somewhat coarse flower. Flowers are from 4 to 5 inches in diameter. We offer the fol-

lowing varieties: **Exquisite**, light rose; **Golden State**, golden yellow; **Crimson Monarch**, deep crimson; **Dream**, rosy lavender; **Oriole**, orange; **Meteor**, true red; **Polar Bear**, white; **Old Rose**, **Canary Bird**; **Purple Prince**; **Mixed**. **Packet, 10c.**

**Lilliput or Pompon Zinnia** is among the most popular for cut flower and border use. The flowers are small, compact and symmetrical in shape. 1 to  $1\frac{1}{2}$  inches in diameter, borne in great quantities on neat, compact growing plants which usually reach a height of from 12 to 15 inches. If you have room for two rows of Zinnias, sow the seeds of the Dahlia Flowered in the background and Lilliput Pompon in the front row. This makes an effective combination and will give a greater variety of flowers for cutting purposes. We offer the following varieties: **Salmon Rose**; **Canary Yellow**; **Scarlet Gem**; **Golden Gem**; **Lilac Gem**; **White Gem**; **Mixed**. **Packet, 10c.**

**Mexican Dwarf Zinnia** is by far the finest dwarf type Zinnia yet developed. The sturdy plants reach a height of not over 1 to  $1\frac{1}{2}$  feet and are literally covered with blooms throughout the entire summer. A wide range of strikingly different colors makes them outstanding in any flower bed. All sorts of reds, yellows and oranges blended with maroon, mahogany, rust or white. Every individual blossom is an interesting study in itself. **Mixed**. **Packet, 10c.**

**Elegans Dwarf Zinnia** is not a new type but not generally known by most gardeners. The variety is excellent for border use and can be used most effectively in a solid bed where a lot of color is desired in low growing plants. These Zinnias bloom from early summer until late fall and are fine for cut flowers. **Mixed**. **Packet, 10c.**

**WILD CUCUMBER** (hA). This is a useful climber where a rapid and vigorous growth of vine is desired for covering trellises, tree stumps, fences, etc. The vine has abundant foliage and is thickly covered with sprays of small white fragrant flowers, followed by numerous prickly seed pods. Grows about 20 feet. Sow seeds late in fall or early in spring where plants are wanted. **Packet, 10c.**

## MAKE YOUR HOBBY MORE FUN

Sunset's VEGETABLE GARDEN BOOK especially written for Western gardeners. Complete information on Varieties, Plantings and Techniques for better Western Vegetable gardens. Lots of illustrations and written in easy-to-follow language.

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Sunset's VISUAL GARDEN MANUAL is the "how-to-do-it" book. 145 full-page illustrations covering Annuals, Perennials, Bulbs, Shrubs and Trees, Special Plants, Special Gardens and Garden Techniques. Each subject step-by-step from start to finish.

**\$1.50**

EVERGREEN SPRAY is once again available. The popular non-poisonous garden spray containing Pyrethrins. Kills both chewing and sucking insects.

**1 ounce, 35c; 6 ounces, \$1.15.**

TWISTEMS, The handy plant tie that has a place in every garden. A package of 125 eight-inch Twistem, **35c.**

PLANTABBS provide a rich formula of complete, balanced plant food plus Vitamin B1 in a convenient tablet form. Perfect for house plants. **30 tablets for 25c; 75 tablets for 50c.**



ROOTONE the miracle rooting material for Seed, Cuttings and Bulbs. Just dip or dust this Hormone powder and plant. Its action speeds the germination of seed and makes hard to root cuttings step right out and grow.

**1/4 ounce Pkt., 25c; 2 ounce jar, \$1.00.**

TRANSPLANTONE stimulates roots of plants, shrubs and trees. Reduces loss in transplanting. It's easy to use. **1/2 ounce Pkt., 25c; 3 ounce Pkt., \$1.00.**

FRUITONE, the hormone spray for stopping pre-harvest fruit drop. Also used extensively for spraying holly to prevent the berries from falling.

**Packet, 25c; 2 ounces, \$1.00.**

# PERENNIAL FLOWER SEED



**ANCHUSA** (Sea Buglose) (hP). A hardy, easy to grow perennial and biennial herbaceous plant, growing from 4 to 6 feet tall. Makes a good sized clump of rather coarse, usually hairy foliage, from which rise leafy stalks bearing from mid-July to September or later, loose masses of blue flowers. Plant in the perennial border, combining with Coreopsis, Gaillardia, Orange and Yellow Chrysanthemum. **Dropmore** variety.

Packet, 10c.

**ANEMONE** (Wind Flower) (tP). Bright-green, finely dissected leaves with large poppy-like flowers, 1½ inches across in various shades and mixtures of red, white and blue. Blooms from March to June. Sow seeds in warm fall or early spring. Thrives in rich, light garden loam, keep moist during blooming period. Effective in beds combined with Scabiosa, Candytuft. **St. Brigid** variety.

Packet, 10c.

**ARABIS** (Rock Cress). Perennial of 6 inches, but spreading out, forming a matty growth. Gray-green leaves forming a sort of rosette with white, fragrant, radish-like flowers borne in loose racemes. Blooms in early spring. Seeds sown in fall or early spring. Grows well in any soil. Attractive in the rock garden, in the regular flower border, or as a border plant.

Packet, 10c.

**ARMERIA** (Sea Pink). Perennial growing 8 inches. Bunches of narrow grass-like leaves coming from the base of the plant. Closely contracted heads of small pink, white or reddish flowers. Blooms profusely in summer, but quite continuously throughout the year. Very hardy, enduring a variety of soils, but preferring a rather light, moderately rich loam. Used as a plant along walks, rockeries.

Packet, 10c.

**CANTERBURY BELLS** (hB). The real bell flower. Branching plant heavily loaded with large pendant bells. Excellent for flower borders and rockery background. Grown in ordinary soil, fertilized with complete fertilizer. Does well in sun or slight shade. Blooms May and June; growth 3 to 4 feet. Grouping with Scabiosa, Perennial Aster and Lupine. Seeds sown in July to produce flowering clumps next year. Varieties: **Calycanthema** (cup and saucer), light blue, white, rose pink, and mixed.

Packet, 10c.

**CARNATION** (tP). Grows from 1 to 1½ feet. Easily winter killed, should be sown in flats during March. Transplant to other boxes when plants are 1 inch high, transfer to open soil when ground becomes warm. Carnations are best planted by themselves. Varieties: **Chabaud**, **Double Giant**, cardinal red, deep rose, flesh pink, white, mixed. (Annual). **Marguerite**, blooms four months from sowing, in mixed shades only.

Packet, 10c.

**COBAEA SCANDENS** (Cup and Saucer Vine). (hP). Evergreen shrubby climber, growing 10 to 20 feet. Rapid growing with pinnate leaves, solitary, light violet or greenish-purple, bell-shaped flowers, blooming in April and May. Seed should be sown in early spring in moist earth. Good for covering porches, arbors, etc.

Packet, 10c.

**COLEUS** (tP). Erect, branching plant, grown chiefly for the leaves which are furrowed serrate, or dentate, colored red, yellow, purple, bright green, frequently blotched or variegated; small blue or lilac flowers. Sun loving plant growing from 1 to 2 feet. Requires a rich, fibrous loam. Used in window boxes and as potted plants for sun porches, conservatories, etc. **Packet, 25c.**

**COLUMbine** (Aquilegia). (hP). Erect, branching plant, with long, slender stems. The sepals as well as the petals are colored, and each of the latter has a downward extension which forms a hollow spur. Should be given only partial sun and protection from wind. Tolerates different soils but prefers rich humus to which bonemeal has been added. Seed sown in spring or early summer will give

plants which can be set into their permanent quarters in September. Following spring will bloom abundantly, growing from 1 to 3 feet high. Splendid for the mixed border. Group with Delphinium, Scabiosa, Stocks, Snapdragons, Heuchera. Varieties: **Mrs. Scott Elliott**, long spurred, packet, 25c; **Pink Shades**, packet, 25c; **Blue Shades**, packet, 25c; **Single Mixed**, Packet, 25c.

**COREOPSIS** (Grandiflora). (hP). Spreading plant, with long, smooth, dark green, lanceolate leaves; large, daisy-like flowers, blooming April to frost. Drought resistant; grows in any soil, but best in moderately fertilized, light loam; requires a sunny location. Growth 18 to 24 inches. For the perennial and mixed borders, combining with Delphinium, Blue Scabiosa, Blue Larkspur, Gaillardia. Varieties: **Double Sunburst**, large, golden yellow, fully double. **Lanceolata**, golden yellow, semi-double. **Packet**, 10c.

**DAHLIA** (hhP). It is easy and fascinating to grow Dahlias from seed and enjoy the surprise of new colors and forms. If seed is started early, plants will bloom the same season. Sow seed in shallow box in March, transplant carefully, and keep soil moderately moist. When all danger from frost is over, plant in the garden. Growth 2 to 6 feet. Require rich, moist, fairly light loam. Appear to best advantage when planted in large beds by themselves, or when planted in the foreground of shrub borders. Varieties: **Single Mixed**, **Double Mixed**, **Coltness Mignon** (Mixed Bedding). **Packet**, 10c.

**Double Daisy** (*Bellis Perennis*). (English Daisy). (hP). Blooming from February to May. Height 3 to 6 inches. Fleshy root, making large clumps of fleshy dark-green leaves, with large, densely rayed heads of white, rose, pink or reddish flowers. Sow seeds in early spring, to give strong plants to set out in October. Used as border plant, naturalized in wild garden and lawns; flower borders. Combine with Narcissus, Winter-blooming Stocks, Heuchera. **Mixed**. **Packet**, 25c.

**Shasta Daisy** (hP). This popular flower is noted for its keeping qualities as a cut flower. Should be planted in the fall or early spring. Grows in any moderately rich soil in the sun and partial shade. Has smooth, dark green, lanceolate leaves with large, daisy-like pure white, golden centered flowers. Blooms April to September. Height 1 to 2 feet. **Packet**, 10c.

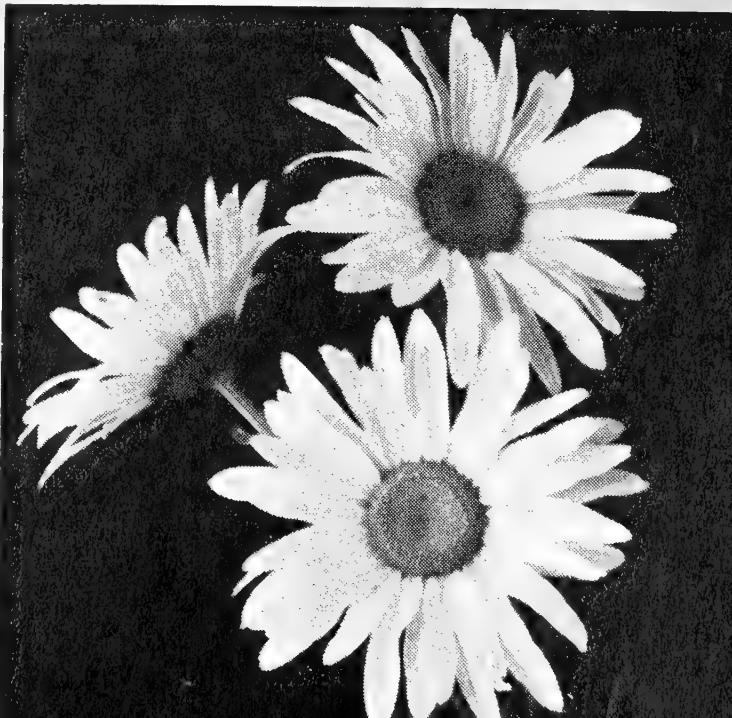


CARNATION . . . Chabaud



COREOPSIS . . . Sunburst

DAISY . . . Shasta



**DELPHINIUM** (Perennial Larkspur). (hP). One of the finest garden flowers, even casually grown, are extremely hardy and make satisfactory garden plants, but if given a little special care, they reward the grower many times over. Fine plants depend upon sun, circulation of air, and a rich, light alkaline soil. Plants should stand at least 2 feet apart. Growth from 3 to 8 feet high. Seed of hybrids sown in late summer to produce good clumps in fall; seed sown in spring to produce summer-blooming plants. Combined with Columbine, Salpiglossis, Snap-dragons, Stock, Scabiosa, Gladiolus. Varieties: **Pacific Giants Dark Blue Shades, Light Blue Shades, White, Mixed.** Packet, 25c.

**DIGITALIS** (Foxglove). (hP). Their long spikes or stems 3 or more feet high are crowded with large thimble-like flowers all drooping toward one side and beautifully spotted on outer or inner surface. Easy to grow in the garden, so long as they have some shade. Will thrive in any ordinary soil. Seeds sown preferably in summer for flowers the next year. Harbors sow bugs and snails—work Naphthalene in soil around plants. In the perennial border, alone or grouped with Hollyhock, Canterbury Bells, Shasta Daisy, Begonias, Evening Primrose. Varieties: **Mixed.** Packet, 10c.

**EVENING PRIMROSE** (Biennial). Opens suddenly with a quick nervous motion that can be seen and heard, exposing yellow corollas that attract night-flying moths. Among the best of the evening garden flowers and are excellent for mixed beds, rockery, and borders. Grow in branching form from 1 to 3 feet tall, producing large blossoms continuously. Packet, 10c.

**FORGET-ME-NOT** (Myosotis). (hB). Will bloom the first year from seed. Small blue star-like flowers borne in clusters on long stems. Their height ranges from 6 to 12 inches, depending on soil and climatic conditions. Form an excellent border with Tulips and other spring blooming bulbs. Adapted to all ordinary soils, but favor rich, moist, light, moderately fertilized soils. **Blue.** Packet, 10c.

**GERANIUM** (Pelargonium). (P). This well-known half hardy perennial will bloom the first year from seed if sown early. Grown in pots and when weather is suitable, insert in soil. Subject to frost injury, so remove and give shelter during cold weather. Grow in sun and partial shade. Varieties: **Zonale Mixed.** Packet, 25c.

**GAILLARDIA** (Blanket Flower). (hP). Beautiful show plant, remarkable for the profusion, size and brilliancy of its flowers. Continuous blooms from early summer until late in the fall. Grows best in sun, but endures slight shade. Height 1 to 2 feet. Bears large, showy, solitary heads with yellow or reddish rays and purple disks. Flowers on long stems, which makes them ideal for bouquets. Plant in mixed border, combining with Deep-blue Delphinium, Russet Snap-dragons, Yellow Geum. Varieties: (Perennials) **Dazzler**, maroon red, golden yellow; Single Mixed (Annuals) **Lorenziana Double Mixed, Single Mixed.** Packet, 10c.

**GERBERA** (Transvaal Daisy) (tP). Large daisy-like blossoms with flower stems rising to a height of about 2 feet. Flowers are excellent for cutting; stand well above a rosette of gray-green leaves and are solid colored in many pastel shades from pale amber through salmon and rose to rich ruby red. Raising plants from seed is not difficult, except that germination is uncertain and careful handling is necessary; for this reason propagation is generally done by cuttings. Best to group Gerberas by themselves in beds or flower borders, but can be combined with Ageratum, Blue Lace Flower and certain colors of Snapdragon. **Mixed colors.** Packet, 25c.

**GEUM** (hP). 1 to 2 feet tall. Best in sun, but tolerates some shade. Hardy plants, with rosette formation of large, rough strawberry-like leaves; long flower stalks, bearing double rose-like flowers. Sow seed in early fall or early spring, produces blooming plants in one year. Grows well in moist light soils; attacked by soil pests, use Naphthalene Flakes in soil. Groupings—looks well with Tall Lobelia, Michaelmas Daisy and Salvia. Varieties: **Mrs. Bradshaw**, blooms all summer, bearing fully double, brilliant orange-scarlet flowers. **Lady Stratheden** is a double yellow. Packet, 10c.

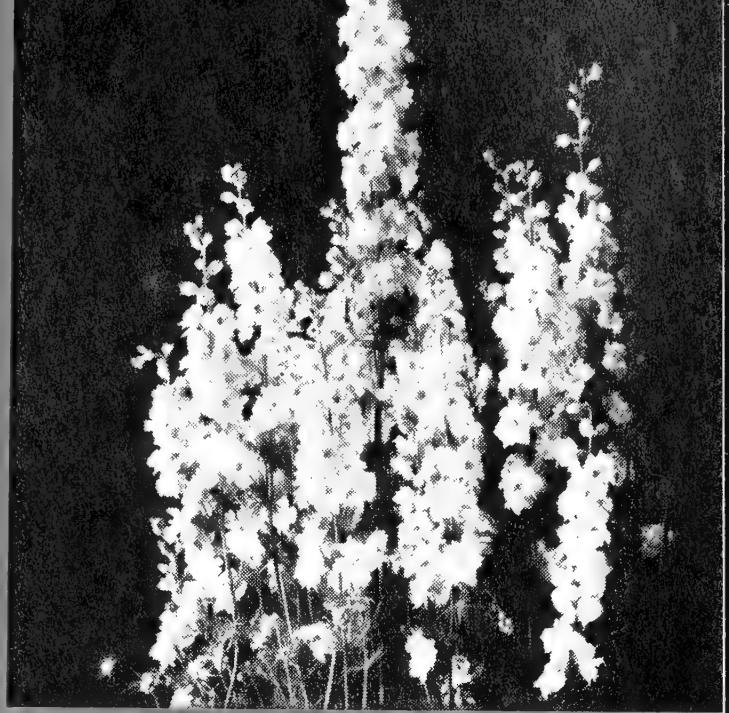
**HOLLYHOCK** (*Althaea*). (hP). Grows 6 to 12 feet in sun or partial shade. Erect plants, with spire-like, simple, hairy stems; large, rough, heart-shaped leaves; large, regular, round blossoms of various bright colors. Grows in any soil, enrich with sheep manure. Subject to rust; control rust with Greenol copper spray. Appropriate along walls, lattice fences, boundary lines, interspersed among shrubs. Varieties: Double, maroon, rose pink, scarlet, yellow and mixed. Single mixed. Packet, 10c.

**HEUCHERA** (Coral Bells). (hP). Blooming from June to September, they are valuable for the low border or rockery, growth 12 to 24 inches. In a good loamy soil and sunny location, the plants produce mats of deep green, from which rise slender stalks bearing airy clusters of bell-shaped flowers. Packet, 15c.

**KUDZU VINE** (Jack and the Bean Stalk). (hP). A twining vine with large tuberous roots, belonging to the Pea family. In the North it usually dies to the ground in winter, but under favorable conditions, it grows from 40 to 60 feet long each summer. It has large three-part, somewhat lobed leaves, spikes of purple, fragrant flowers, and large hairy seed pods. Packet, 10c.

**LUPIN** (Russell Lupin). (P). Distinguished by their deeply cut foliage, which has many lance-like rays radiating from the end of the leaf stalk. The flowers, shaped like those of peas, are borne in great profusion on long-stemmed spikes. The flowers, predominantly blue, yellow, white or rose, are usually borne in May and June. After the first bloom is over, if the plants are cut back, they will often produce a second showing of flowers. Grows about 3 feet tall, thriving in either sun or partial shade. Mixed. Packet, 25c.

**PENTSTEMON** (Beardtongue). (tP). Grows 2 to 4 feet, thriving best in open situations in soil well drained but not too dry. Fast growing, bushy plant, branching from the base, medium-sized, bright-green, shiny leaves. Rather large, long tubular flowers of red, pink, coral and lavender. Blooming April to September. Sow seeds in early spring. Fine for the perennial and mixed borders. Combine with Clarkia, Delphinium, Pyrethrum, Shasta Daisy, Verbena. Packet, 10c.

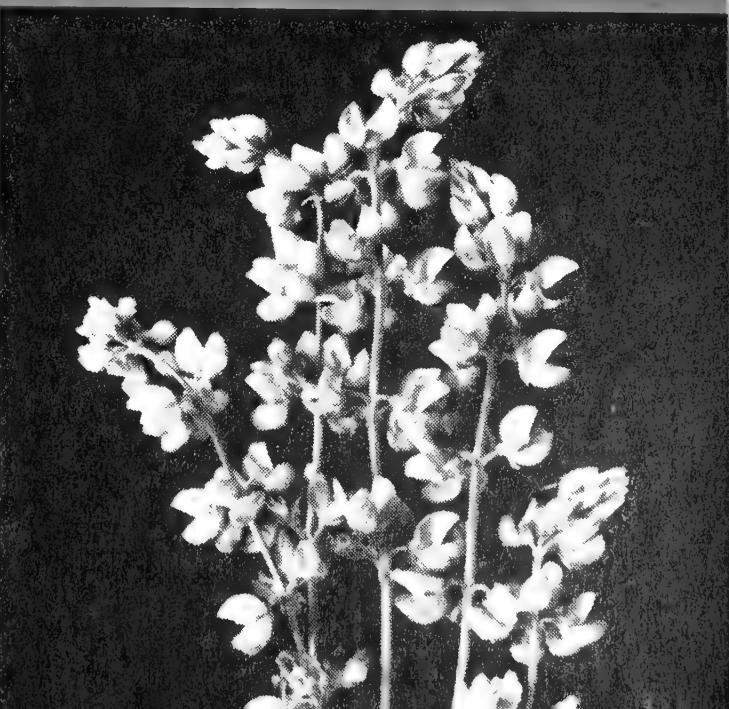


DELPHINIUM . . . Pacific Giants



GAILLARDIA . . . Double

LUPIN . . . Russel



**PHYSALLIS** (Chinese Lantern). Growing to 2 feet, bears small white flowers followed by large brilliant red calyxes becoming 2 inches long when the plant is in fruit. It is a perennial and forms long tuberous roots which are not killed by frost and spread all over flower beds. The bright red "lanterns" are valued for winter bouquets, but the plants should be grown only on waste spots where their aggressive attempts to occupy the earth will not become objectionable. **Franchetii.**

Packet, 10c.

**PRIMULA** (Primrose). (hP). A favorite for growing outdoors in mild climates and very fine for potting, window boxes and rockeries. Seeds sown in early fall usually, or in early spring. Requires a rich, light, moist, acid moderately fertilized loam. Best in a cool, somewhat shady spot. Use Ortho Nursery Volk at time of transplanting to avoid root weevil. Variety: **Polyanthus**, grows 8 inches high. Soft, light-green leaves, slender scapes bearing lavender-mauve flowers, blooming December to May. **Mixed.**

Packet, 25c.

**POPPY** (Papaver). (A&P). Flowers growing from 6 inches to 4 feet, according to type. Perennials are planted in fall and annuals in early spring. All kinds require a well drained, moderately rich, light loam, and not too moist soil. Grouping—effective by themselves or grouped in a mixed border with yellow and orange Snapdragons, Lobelia, etc. Varieties: (Annuals) **Shirley**, height 1 to 2 feet, branching plant with gray-green finely divided leaves; fringed flowers, white, through shades of pink or deep scarlet. **Single Mixed; Double Mixed.**

Packet, 10c.

**PYRETHRUM** (Painted or Single Daisy). (hP). Grows 1 to 3 feet. Has long, slender flower stems; clear green, finely dissected fern-like leaves; daisy-like flowers several inches across that bloom from April to August. Sow seeds in early spring in a cool, well drained, rich, loamy soil well fertilized. Used in the perennial border combined with pink and rose Sweet Williams, Iceland Poppy, Sweet Scabiosa, Nicotiana and Coral Bells. **Mixed.**

Packet, 10c.

**California Poppy** (Aurantisca), the true California Poppy—color is deep orange. (Perennial.)

Packet, 10c.

**Elmonte Tangerine**, deep orange, grows 2 feet high.

Packet, 10c.

**Iceland**, grows 1 to 1½ feet, slender stemmed, with a tuft of bright green leaves; leafless stems bearing single, medium large, delicately fragrant flowers in light yellow, orange, orange-scarlet, rose pink.

Packet, 10c.

**Stanford Giant Mixed; Oriental Mixed**, grows 3 to 4 feet, stout, leafy stems, rough hairy, large leaves; very large, terminal flowers, mixed colors in salmon, red, orange, pale pink.

Packet, 10c.

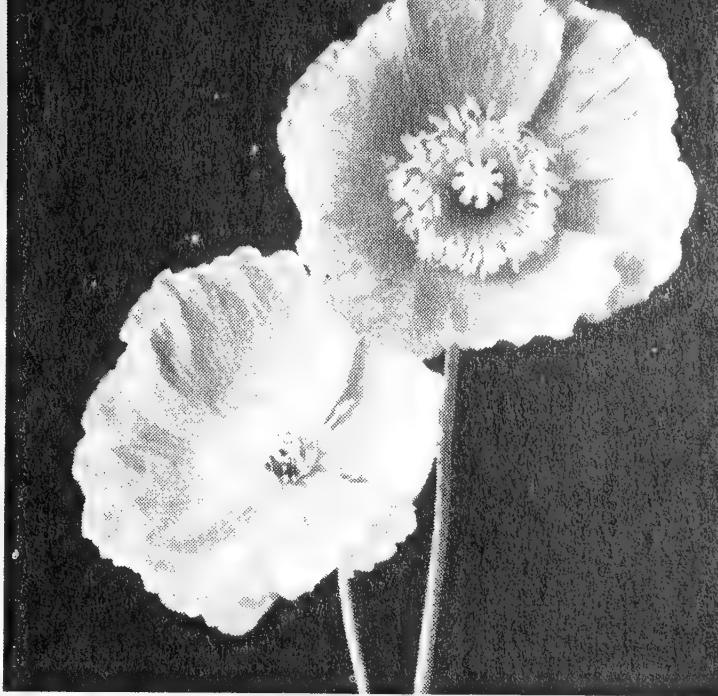
**SALVIA** (tP). Grow from 2 to 4 feet high and blooming the first year from seed. The brilliant red tubular blossoms are borne on long stems in racemes or spikes, flowers blooming in summer and fall. Any average garden position suits them, although they are at their best when planted in an enriched loamy soil where they get sun most of the day. Best with background of shrubs having dark-green, glossy leaves. Sow seeds in early fall or early spring. Varieties: **Bonfire**, compact bush 2 feet in height, clear red.

Packet, 10c.

**STATICE** (Sea-pink, or Thrift). (hP). Dwarf plant, growing from 1 to 2 feet. Has narrow leaves in rosettes and small flowers in heads. Grow in any soil and require but little water. Varieties: **Latifolia** (Sea Lavender) (P) produces large branching sprays of minute lavender-blue flowers that are invaluable for cutting; may be dried and used with everlasting flowers. **Sinuata** (hA) an everlasting flower which is increasing in popularity.

Packet, 10c.

**SWEET WILLIAMS** (*Dianthus Barbatus*). (hP). Among the early hardy plants they are outstanding. Grow 10 to 20 inches tall. Plant either in full sun or slight shade. They form a dense mat of light to dark-green leaves, have dense, round-headed, hairy-petaled, medium-sized flowers. Should be treated as a biennial, sow seeds outdoors in May and transplant them in August to flower the second season. Useful as a border plant and the mixed border combining with Snapdragons, Stocks, Carnations, Petunias, Larkspur. Their large color range makes them excellent for cut flowers. Varieties: **New Port Pink**; **Scarlet Beauty**, orange red; **Dark Crimson**; **White**; **Single Mixed**; **Double Mixed**. Packet, 10c.



**POPPY . . . Iceland**

**TRITOMA** (*Red Hot Poker*). (P). One of the most startling of autumn-blooming plants, with dense cigar-shaped spikes of red and yellow tubular flowers rising 4 to 6 feet. Seed sown under glass in very early spring will sometimes produce flowering plants the following autumn. Set outdoors after all danger of frost is passed in loose, well-drained, rather poor soil in a sheltered but sunny location. **Mixed**. Packet, 10c.

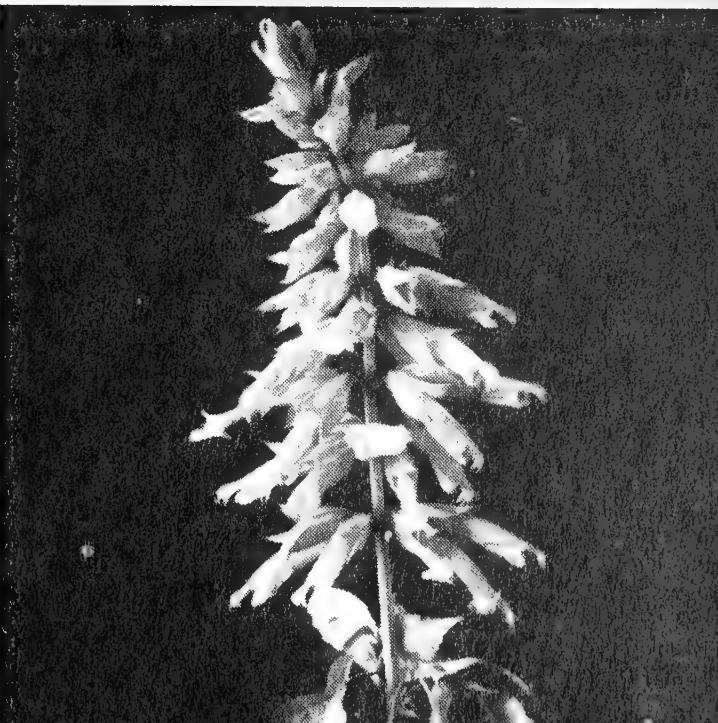


**PYRETHRUM**

**VALERIANA** (*Garden Heliotrope*). (hP). Grows from 2 to 4 feet. Plant in any garden soil in either full sun or partial shade. Erect branching plant, with smooth, compound leaves. Has dense clusters of small, fragrant white or pinkish lavender flowers. Blooms profusely in the summer. Useful for filling in between shrubs and for covering embankments. **Mixed**. Packet, 10c.

**SALVIA . . . Bonfire**

**VERBENA** (hP). Grows 6 to 8 inches; of trailing habit. Densely branching, with dark-green, wrinkled, dissected leaves, with clusters of medium-sized, salver-shaped, white, pink, red, purple flowers that bloom from May into the winter. A very good border plant, also for parkings, foreground of shrub border and in the mixed border combined with Petunias, Shirley Poppies, Snapdragons. Varieties: **Golden Queen**, golden yellow; **Scarlet Defiance**, orange red; **Pink Shades**; **Blue Shades**; **White**; **Mixed**. Packet, 10c.



**VIOLA (P).** Tufted plant growing 4 to 8 inches, bright to dark green leaves; medium-sized single or double flowers in variety white, yellow, lilac, blue, mauve. Very few other plants have as long a flowering period. Succeed best in a deep, well-enriched, well-drained soil with plenty of water during the hot summer. Prefer a light shade during the hottest part of mid-summer days. Varieties: **Jersey Gem**, deep violet blue. **Packet, 25c.** **Apricot, Packet, 25c;** **Yellow, Packet, 25c; Mixed.** **Packet, 25c**

**WALLFLOWER** (*Cheiranthus Cheiri*). (hP). A sun loving plant, but endures a little shade. Woody plant, growing 2 to 3 feet, with ribbed stem and dark-green lanceolate leaves; medium-sized flowers that bloom from May to September. Sow seeds in early fall and early spring. Grows in any soil, but prefers a rich, well fertilized, light loam; prune back after flowering. Combine in the mixed border with Anchusa, deep-blue Delphinium, Violets. Varieties: **Siberian Wallflower**, grows 1 foot, bright-orange flowers; **Blood Red; Paris Market**, brown; **Single Mixed; Double Mixed.** **Packet, 10c.**

## BUILD A COMPOST PILE

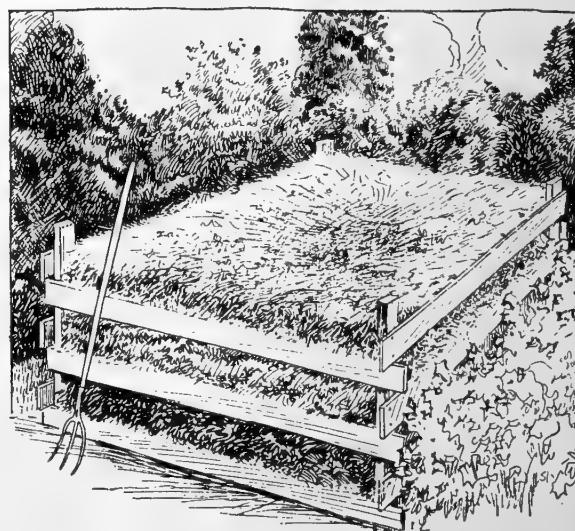
If leaves are piled up and allowed to decay, they produce leaf mould, one of the most useful soil conditioners which amateur gardeners can have. The more he advances in the practice of his hobby, the more useful will the gardener find this material.

So do not burn leaves. Pile them up, and invite your neighbors who are not so keen on gardening, to bring their dead leaves over to your pile. If you use no special treatment to hasten their decay, in two years at most they will be reduced to leaf mould. But one may easily shorten this period by months, if he prefers.

Set aside a suitable location, out of the way, and preferably screened by planting, or a fence; 10 x 10 feet would be an average size. Clean off all vegetation, and harden the surface soil by rolling. Pile evenly over this area all dead leaves and other waste plant and even animal material, from your garden, and from kitchen wastes. But carefully exclude all wood, branches, twigs and metal objects. When the layer, well tramped down, is six inches thick, sprinkle it with a balanced fertilizer mixture, about one ounce to a square

yard. Wood ashes and limestone are also beneficial, each in three or more times this quantity. Then wet it down.

Build up the heap, layer by layer, with similar applications between the layers; and keep it moist. If bad odors develop an inch of soil thrown on top of each layer will prevent them. When the pile is as high as you can conveniently manage, cover the top with soil and let it stand until you are ready to dig the humus into the garden. Start a new one to take care of current accumulations.



A Trim Pile of Dead Leaves Will Become Leaf-Mould in Two Years Without Special Treatment.

# AGRICULTURAL SEED



## ALFALFA SEED

**Common Alfalfa.** There are various strains of common Alfalfa distinguished by the name of the state in which grown, such as Idaho, Oregon, Northern California, etc. Common Alfalfa from above named sections is adapted to Oregon and Washington climatic conditions. Common Alfalfa differs from the Grimm Alfalfa mainly in the root system. The tap root in common does not show the tendency to branch and the crowns are not as spreading.

**Cossack Alfalfa.** 15 pounds per acre. An introduction from Russia and a hybrid between common and yellow-flowered Alfalfas.

Growth is generally upright with stems medium size, plants are very leafy and fairly large leaves. Flowers are variegated ranging from white and yellow to dark purple.

Rooting system is large with heavy deep penetrating tap root being the rule. A very winter hardy variety adapted for growing under practically the same conditions as Grimm Alfalfa.

**Grimm Alfalfa.** 15 pounds per acre. The most important member of the variegated group in the United States. Introduced from Germany by Wendelin Grimm.

A very winter hardy, long-lived variety. The tap root shows a tendency to branch and the crowns are low set and spreading. These characteristics contribute much toward its ability to resist extreme cold, alternate freezing, thawing and heaving. Succeeds in most types of soil except those heavily charged with alkali, will not grow in waterlogged soil.

**Ladak Alfalfa.** An introduction from Northern India.

The growth in general is quite upright with stems medium size, plants are very leafy, medium size leaves. Flowers are

variegated, ranging from whitish and yellow to very dark purple.

The rooting system is extensive, with most plants being tap rooted.

One of its outstanding characteristics is its ability to produce a heavy first crop. It is sometimes referred to as one-cut Alfalfa, mainly for the reason that under certain conditions its comeback is rather slow. It is very well adapted to conditions where only one crop of forage can be secured a year because of lack of moisture and short growing season.

It is extremely winter hardy, and long-lived and is much more resistant to bacterial wilt than Grimm, Common and other varieties closely related to these.

## CLOVER SEED

**Alsike Clover** (*Trifolium Hybridum*). 12 pounds per acre. A long-lived Perennial, adapted to a wider range of both climatic and soil conditions than Red Clover. Thrives well on clay, clay loams, sandy loams and muck soils, providing abundant moisture is available. Will survive where soil is waterlogged, making it well adapted to growing under irrigation. An excellent pasture plant and when sown for hay is usually mixed with Red Clover, Timothy or Red Top.

**Crimson Clover** (*Trifolium Incarnatum*). 15 pounds per acre. An annual plant having a strong tap root, shows no very marked soil preferences, succeeding on both sandy and clayey soils as long as they are well drained. From the crown of the root numerous upright stems develop which reach an average height of 1 or 2 feet. Has a high nutritive value and can be used for either hay or pasture, valuable for soiling purposes in short rotations, as the green matter produced is heavy, and the roots penetrate deep into the ground.

**Ladino Clover** (*Trifolium Repens latum*). 5 pounds per acre. Also known as Giant White Clover, growing about twice the size of White Dutch Clover. It is a Perennial of medium long life, having a short tap root. The surface stems lie flat on the ground and commonly produce fibrous roots at the joints. Ladino Clover usually makes a growth of 8 to 12 inches in height. Can be grown on rather shallow soils where well supplied with lime, phosphate, humus and moisture. Ladino is not a deep-rooted plant and thrives best on medium heavy type soils where there is constant but not excessive moisture. This is primarily a pasture plant and may be sown alone or with a combination of other grasses.

**Lespedeza.** 15 pounds per acre. Classed as a summer annual, however, in sections where adapted will usually reseed itself and will thus occupy the land for two or more years. The plants are usually much branched, stems wiry, bearing numerous small leaves, under favorable soil and climatic conditions the plants commonly grow about 12 inches high. Adapted to practically all types of soil if well drained near the surface. Requires a warm growing season and will not withstand frost. Used mainly as a pasture plant.

**Lotus Corniculatus.** 8 to 12 pounds per acre. A long-lived perennial. Habits somewhat similar to that of Alfalfa in that it is rather distinctly a bunch-type plant. It is not exacting as to soil requirements, and makes good growth on sandy and light gravelly soils, as well as on heavier clay loam. It has a rather extensive deep rooting system and will succeed where soil moisture may be rather short for, at least, a portion of the year. It is quite often harvested for hay and under favorable conditions will reach a height of 18 to 30 inches. It makes a very good pasture plant and has a long pasturing season in any one year. Spring seeding, March to May 15, is considered best for the Pacific Northwest.

There are two primary types of *Corniculatus* and are referred to as the Narrow-leaved and Broad-leaved. The Narrow-leaved type is the most common.

**Lotus Major.** 4 to 6 pounds per acre. This is an extremely long-lived, semi-low growing perennial. Well adapted to low, wet lands that are relatively high in fertility.

It spreads by underground runners and has a rather shallow rooting system.

**Lotus Major** is one of the best legumes for permanent pasture purposes, owing to its extremely long life.

Spring seeding, March to May 15, is recommended for the Pacific Northwest, depending upon seasonal conditions.

There are two distinct types of *Lotus Major*, generally referred to as the Smooth-leaved and Hairy-leaved. The Hairy-leaved type is the more common one and is growing in several sections of Oregon.

**Red Clover** (*Trifolium Pratense*). 15 pounds per acre. Usually classed as a short-lived perennial and is considered the most important of all leguminous forage crops. Requires a well drained soil, does better in clay soils than in loams and better in loams than in sandy soils. Is especially intolerant to water-logged soils.

**Mammoth Red Clover** (*Trifolium Pratense Perenne*). 15 pounds per acre. A large variety of red clover more decidedly Perennial than common Red Clover requiring the same climatic and soil conditions. The stems are long, coarse and generally spreading. Mammoth red blooms about 10 days later than common red and grows more slowly after mowing. Its coarse growth makes the hay less relished by stock, however its heavy growth makes it an excellent soiling crop.

**Strawberry Clover** (*Trifolium Fragiferum*). 4 to 5 pounds per acre. A low-growing perennial pasture legume, spreading vegetatively by creeping stems that root at the nodes. The leaves, stems and habit of growth are similar to white clover.

It is adapted to a wide range of conditions and has been successfully established in most of the Western States.

It is of particular value on wet saline or alkaline soils, although it will thrive in normal soils. Will also thrive under wide extremes of temperatures, ranging from 40 degrees below zero to high summer temperatures.

Spring seeding is recommended on a firm moist seed bed.

**White Sweet or Bokhara Clover** (*Melilotus Alba*). 20 pounds per acre. A biennial having a strong tap root, produces numerous leafy stems, growing from 4 to 6 feet in height when firmly established. Grows readily on practically all types of soils. Endures poorly drained soils better than Alsike, used mainly as a pasture plant and for green manure.

**Yellow Sweet Clover** (*Melilotus Officinalis*). 20 pounds per acre. A biennial having the same habits of growth as the White Sweet, requiring the same soil and climatic conditions. Stems are less leafy and smaller in size. The plant does not grow quite as tall and is about two weeks earlier.

**Yellow Sweet Clover Annual** (*Melilotus Indica*). 20 pounds per acre. Known as Yellow Blossom sour clover. Not recommended for forage or hay, used almost entirely for cover crop. Soil requirements same as other sweet clovers.

**Subterranean Clover** (*Trifolium Subterraneum*). 12 to 15 pounds per acre. The name of this clover is derived from its habit of pushing the seed head into the soil sometimes to a depth of two inches, where the seeds mature and germinate when favorable conditions develop. Subterranean Clover is an annual that starts growth in the fall or late winter.

The stems are prostrate, assuming the form of runners. The leaf is similar to that of other clovers. The flower heads usually bear three small white to pinkish white flowers in a cluster at the tip of the stalk. A single seed develops from each flower. The mature seed is dark purple, about double the size of a crimson clover seed.

Under Pacific Northwest conditions this clover probably requires for survival, at least 20 inches of rainfall during the fall, winter and spring, and the temperatures remaining above 10 degrees Fahrenheit. The plant does not appear to be tolerant of poor drainage. It will thrive on soils that are quite acid.

This plant starts growth much earlier in the spring than other legumes.

**White Dutch Clover** (*Trifolium Repens*). 8 pounds per acre. A long-lived but shallow-rooted perennial. The stems creep on the surface of the ground and root abundantly. On this account the growing point is seldom injured by mow-

ing or grazing. Grows in practically all types of soil provided moisture is abundant, thriving best in loams and clay soils. White Clover is considered to be one of the most important pasture plants, generally used in pasture mixtures and is also used to a large extent in lawn grass mixtures.

## COVER CROP SEED

**Austrian Winter Field Peas.** A true winter variety. Plants resulting from fall seedings pass through a definite period of winter dormancy before growth begins in the spring. The plants are viny, generally similar to other varieties of field peas, under average conditions attain a length of 3 to 4 feet. The blooms are purple. The peas are very hardy, zero temperatures do little damage unless freezing and thawing periods are severe. They are adapted to well drained clay and sandy loams. The Austrian pea is used for all types of forage such as hay, silage, soiling and pasture.

**Canadian Field Peas.** Quite similar to the Austrian Winter Field Pea. The stems and leaves are somewhat larger and the blooms are white. The variety is not winter hardy, being adapted only to moderate temperatures. They do best on loams or clay loams but will succeed on most types of soil if well drained.

The Canadian Field Pea is used for practically the same purposes as the Austrian in general farming. Both varieties are usually sown with a small grain crop.

**Vetches** make excellent feed, either green or as hay, and are also exceedingly useful as cover and green manure crops. They are usually seeded with grain, oats being the favorite for the reason separation is easily made when harvesting vetch for a seed crop.

**Common Vetch.** The most important annual legume grown in Oregon, used extensively as a green feed crop for spring and summer, also makes an excellent manure and cover crop. Vetch is best suited to a moist climate free from extremes of heat or cold during the growing season. Is adapted to heavy well drained soils. The stems are slender growing from 3 to 5 feet or more in length, with about 7 pairs of leaflets and a terminal tendril. The flowers are violet purple rarely white and are borne in pairs on a very short stalk.

**Hungarian Vetch.** A fine stemmed annual making a semi-erect growth from  $2\frac{1}{2}$  to 4 feet in length and somewhat hairy overall. The flowers are brownish white in color and are borne in groups of from 2 to 8. Hungarian Vetch is quite winter hardy and is adapted to a wide range of soils; lands with poor drainage and lands that are heavy, sour and white will often produce crops of Hungarian Vetch while other crops have failed.

**Hairy Vetch**, also known as Sand Vetch. The stems are slender, usually growing to an average length of 6 to 8 feet. The leaves are narrow, violet blue borne on long stems in dense one-sided clusters of about 30. Hairy vetch is quite winter hardy rarely winter killing if well established in the fall, adapted to a wide range of soils doing best on sandy or sandy loams but does not succeed in very wet soils.

## PASTURE GRASS SEED

**Brome Grass** (*Bromus Inermis*). 20 pounds per acre. A long-lived Perennial with a creeping root-stock. These are much branched, roots at the joints and produces numerous upright stems. The stems are rather stout from 1 to 4 feet high, and carry many spreading, broad smooth leaves varying from light to dark green. The upright stems produced are scattered, therefore, the plants are not tufted but form loose mats. Brome Grass is adapted to regions of rather low rainfall, endures winter cold remarkably well and no other cultivated Perennial grass has shown a higher degree of drouth resistance, prefers rich loams and clay loams and has succeeded well in sandy soils.

**Cheat or Chess** (*Bromus Secalinus*). A smooth annual grass from 1 to 3 feet tall with flat blades and open drooping panicles, sometimes grown as an annual hay crop, and should be cut when the seed is in the daugh stage. Adapted to the same soil conditions as wheat. The plants are similar to those of wheat and formerly the idea was held that cheat was a degenerative or changed form of wheat whence its name.

**Crested Wheat Grass** (*Agropyron Cristatum*). 15 pounds per acre. A hardy drouth-resistant Perennial bunch grass

having an extensive root system, especially adapted to regions where the temperatures are severe and the moisture supply is limited. The plants have a dense, dark green foliage during the early part of the season, after seeding the plants appear less leafy but the stems are fine and when harvested early makes hay of excellent quality, does well on practically all soils ranging from light sandy loam to heavy clay.

**Fescue Alta** (*Festuca Elafor Var. Arundinacea*). 12 to 14 pounds per acre. A deep-rooted long-lived perennial grass, having numerous dark green basal leaves. Attains heights of 3 to  $4\frac{1}{2}$  feet.

It has a wide range of climatic adaptations and grows on a diversity of soils, preferring fertile, moist, rather heavy land, but will thrive on most Oregon type soils. It is very winter hardy and will tolerate poorly drained conditions, surviving in standing water for long periods during the winter when the plants are semi-dormant.

Fescue Alta is an extremely popular grass because of its excellence in pastures, high yields of forage, deep root system and long growing season.

It may be either fall or spring planted. Fall planting considered best for Western Oregon.

**Fescue Meadow** (*Festuca Elatoir*). 20 pounds per acre. A deep-rooted, long-lived Perennial. The stems are 18 to 24 inches high, smooth, rather slender. Most of the leaves are produced by numerous sterile shoots from the root stock. The leaves are dark green, long and broad. Prefers rich moist or even wet soils, does not succeed well in sandy soils. Thrives as well as Orchard grass in shady places. It is better adapted for pastures than for meadows but may be used for both purposes.

**Mesquite** (*Holcus Lanatus*). 20 pounds per acre. This plant is primarily adapted to moist cool climates and under such conditions is not particular as to soil.

The plants form thick, rather high tussocks. The stems are erect, growing from 2 to 3 feet high. The whole plant has a velvety appearance hence the name Velvet Grass

is sometimes used. Mesquite should be sown with a mixture of other grasses, as stock does not take to it readily when grown alone.

**Meadow Foxtail**—Moistland Grass (*Alopecurus Pratensis*). 12 to 14 pounds per acre.

This is a long-lived Perennial, adapted to a cool climate. However, it is not sensitive to heat or cold, as it will grow successfully where summer temperatures occasionally reach 100 degrees F. and where winter temperatures may drop below zero. Meadow Foxtail is especially suited to swampy or overflow lands and will stand long periods of overflow, especially during the dormant period. It is primarily a pasture plant and is one of the first grasses to start growth in the spring. Grows erect, usually about 3 feet high. The heads are very much like that of timothy and many times is mistaken for timothy. The leaves are dark green, smooth, medium broad and numerous. Both fall and spring seedings are successful in the Pacific Northwest.

**Orchard Grass** (*Dactylis Glomerata*). 25 pounds per acre. A long-lived Perennial forming dense circular tufts, a typical bunch grass producing no stolons and hence never forms a complete sod. The stems are 2 to 3 feet high and are crowned and surrounded at the base by numerous shoots. The leaves are long, broad and flat, rather soft in texture. Grows in practically all types of soil, being best adapted to clays or clay loams. Succeeds well in shady places and also does quite well where rainfall is rather scanty, starts growth early in the spring.

**Pasture Mixtures.** 35 pounds per acre. Owing to the fact that so many types of Pasture Mixtures are used, we realize that it would be impossible for us to prepare in advance mixtures that would conform with the requirements of each formula recommended.

Therefore we have confined our efforts to one Pasture Mixture only, namely, P. S. Co.'s ALL PURPOSE. In this mixture we use only the very best grades of seed carrying a high percentage of Purity and Germination and only those seeds that are adapted to the general soil and climatic conditions throughout the Pacific Northwest and for this reason we feel that this mixture will meet with the average general requirements.

**Reed Canary Grass** (*Phalaris Arundinacea*). 8 pounds per acre. A long-lived rather coarse Perennial grass. The plants are resistant to cold both as seedlings and mature plants. The rapidly spreading short underground stems soon form a dense sod; growth starts early in the spring and continues until late fall. The plants grow from 4 to 6 feet in height. The stems are stout smooth and seldom lodge. The leaves are broad and nearly 1 foot long.

Reed Canary is especially adapted to swampy or overflow lands of sandy, mucky or peaty nature, makes an excellent pasture plant and may also be used for hay.

**Oregon Rye Grass**—Also known as: Domestic Rye Grass, Common Rye Grass, Western Rye Grass, Pacific Rye Grass. These names are used to designate Common Rye Grass grown in the United States.

Common Rye Grass grows from 2 to 3 feet tall; is leafy and tender and when used as pasturage, is very palatable to all classes of livestock. It gives very good fall, winter and spring grazing, when seeded alone.

The cultural practices, rates and methods of seeding, climatic and soil requirements are the same as for other grasses.

**Perennial Rye Grass**—Also known as English Rye Grass (*Lolium Perenne*). 25 pounds per acre. This particular type of rye grass is used for permanent pasture seedings. It starts quickly and furnishes early grazing, while other long-lived grasses are becoming established. Grows from 2 to 3 feet tall. Adapted to the same soil and climatic conditions, cultural practices and methods of seeding, as other Rye Grasses.

**Italian Rye Grass** (*Lolium Multiflorum Lam*). 25 pounds per acre. A hardy short-lived grass, usually an annual. When seeded in spring, late summer or early fall, it makes rapid growth, furnishing grazing in remarkably short time. It is tender, very palatable to livestock and has excellent carrying capacity. The plants grow from 2 to 4 feet in height. Since Italian Rye Grass is a heavy seeder, if not kept closely grazed or mowed, many new plants appear from volunteer seeding. Adapted to the same soil and climatic conditions as other rye grasses.

**Sudan Grass** (*Andropogon Sorghum*). 25 pounds per acre. A tall annual, growing under favorable conditions to height of 4 to 6 feet. The stems are fine, leafy, perfectly erect, seldom lodging.

The plants stool abundantly and owing to the lack of root stocks never become troublesome as a weed. Sudan is grown primarily for forage production purposes and should not be sown until the soil is warm, usually about corn planting time. Many failures are traced direct to seeding in a cold soil. In general climatic and soil adaptations for Sudan are nearly identical with those of corn.

**Tall Meadow Oat Grass** (*Arrhenatherum Elatius*). 30 pounds per acre. A long-lived, deep rooted Perennial. Strictly a bunch grass growing to a height of 4 to 5 feet. The stems are generally dark green, leafy above the middle. The leaves are long, broad and rather soft in texture, usually a bright green almost yellowish. Can be grown on practically any kind of soil provided it is fairly moist, will not endure wet soils. It is one of the most drouth resistant of the cultivated grasses. Makes a quick start after pasturing and stands pasturing well. One of the first grasses to start in the spring and the last to die in the fall.

**Timothy** (*Phleum Pratense*). 15 pounds per acre. A Perennial grass having a very short root stock and therefore grows in more or less compact tufts. The stems which usually reach a height of from 1 to 4 feet or more are smooth and generally erect. The leaves are generally short compared with the height of the plant. Timothy is adapted to cold, moist or wet lands also heavy clay soils. However, does not thrive on sour soils or impoverished sandy or shallow soils. Although root system is shallow it stands drouth fairly well. It is very resistant to cold.

**Tualatin Meadow Oat Grass**. A selection made from the ordinary Tall Meadow Oat Grass, and has the following improvements: It is leafier; The leaves are finer; The vegetative growth is more upright; The stems are finer, rather soft, and reach a height of 4 to 4½ feet; It is much more palatable than ordinary Tall Meadow Oat Grass and will withstand pasturing much better without injury.

The seed production is very good, there being practically no shattering and the seed from this new strain may be planted with a drill.

Soil climatic and cultural requirements are the same as for Tall Meadow Oat Grass.

## MISCELLANEOUS SEED

**Amber Cane**. 30 pounds per acre. This is the most popular variety for the Pacific Northwest. Early in maturity, of medium height, slender stalks, with rather few leaves, grown chiefly for forage.

All varieties are sensitive to cold soils and should not be planted until about 2 weeks after corn planting time.

**Buckwheat**. 25 pounds per acre. An erect growing Annual which under ordinary conditions attains a height of about 3 feet. Is not exacting as to soils. The rather light, well drained sandy loams seem best suited, however, good crops are produced on infertile, poorly tilled land.

Buckwheat is very sensitive to frost, however, the crop may be grown far toward the north. This is due to the short growing season of the plant amounting from 10 to 12 weeks. Japanese and Silverhull are the most commonly grown in the United States.

**Dwarf Essex Rape**. 8 pounds per acre. There are several varieties of rape, however, Dwarf Essex is considered to be the best, in fact is the only one used for pasture and forage crop purposes. Rape is termed as a cool weather plant, therefore is adapted to our cool moist climate here in the Northwest and is not very exacting as to soil requirements.

**Millet**. 25 pounds per acre. The millets are rapid-growing annuals used primarily for forage production purposes. Requiring in general the same climatic and soil conditions as Sudan grass. The plants usually attain a height of 3 to 4 feet. The stems are erect, rather stiff and the leaves are long and broad.

The seed should not be sown until the ground is warm, usually about corn planting time.

Several varieties are used here in the Northwest, the most popular being German or Golden, Early Fortune or Hershey and Japanese, also known as Billion Dollar Grass.

**Soy Beans.** 50 pounds per acre. The Soy Bean is a leguminous Annual growing to a height of 10 inches or more depending on soil conditions. The plant is erect and branching, quite leafy and producing numerous pods. The leaves vary in size and color depending on the variety. Soy Beans are a promising emergency leguminous hay crop for various places here in the Northwest.

Soy Beans grow on rather a wide range of soils, are quite drouth resistant, and will stand excess moisture providing the water does not stand for any considerable length of time.

Should be sown about corn planting time, rows about three feet apart and the seed about 3 or 4 inches apart in the row.

## FARM SEED PLANTING CHART

CROP	Pounds Per Acre	CROP	Pounds Per Acre
<b>Alfalfa</b> .....	10 to 15	<b>Flax—Seed</b> .....	30 to 45
<b>Bent Grasses:</b>		<b>Kale—1000 Headed</b> .....	1 to 1½
Astoria.....	7 to 10	<b>Meadow Foxtail</b> .....	12 to 14
Highland.....	7 to 10	<b>Millets:</b>	
Seaside.....	7 to 10	Foxtail.....	20 to 25
<b>Bluegrasses:</b>		Japanese.....	25 to 35
Kentucky.....	15 to 25	Proso or Hog.....	25 to 40
<b>Bromegrass, Smooth</b> .....	18 to 20	<b>Orchard Grass</b> .....	20 to 25
<b>Buckwheat</b> .....	20 to 30	<b>Peas—Field:</b>	
<b>Cereals:</b>		Austrian.....	75 to 90
Barley.....	75 to 100	Canadian.....	70 to 100
Oats.....	80 to 100	<b>Rape</b> .....	8 to 10
Rye.....	75 to 100	<b>Redtop</b> .....	7 to 10
Wheat.....	80 to 120	<b>Reed Canary Grass</b> .....	6 to 8
<b>Cheat or Chess</b> .....	60 to 75	<b>Rye Grasses:</b>	
<b>Clovers:</b>		Domestic—Oregon.....	20 to 25
Alsike.....	10 to 12	Perennial—English.....	20 to 25
Ladino.....	5 to 6	<b>Sorghum</b> .....	4 to 8
White.....	6 to 8	<b>Soybeans</b> .....	50 to 60
Red.....	10 to 15	<b>Sudan Grass</b> .....	20 to 30
Mammoth Red.....	10 to 15	<b>Sunflower</b> .....	10 to 15
Sweet—Yellow.....	15 to 20	<b>Tall Meadow Oat-Grass</b> ....	20 to 30
Sweet—White.....	15 to 20	<b>Timothy</b> .....	10 to 15
Crimson.....	12 to 15	<b>Velvet Grass or Mesquite</b> ... 15 to 20	
Strawberry.....	4 to 5	<b>Vetches:</b>	
<b>Corn—Field</b> .....	8 to 12	Common or Gray.....	60 to 75
<b>Crested Dogtail</b> .....	20 to 25	Hairy or Winter.....	30 to 40
<b>Crested Wheatgrass</b> .....	12 to 15	Hungarian.....	60 to 75
<b>Fescues:</b>		Purple.....	60 to 80
Chewing's.....	20 to 25		
Meadow.....	20 to 25		
Tall.....	20 to 25		

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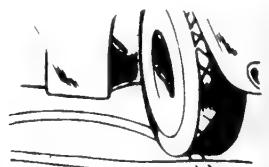
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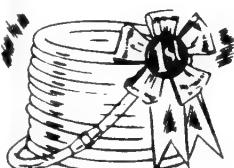
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# LET'S KILL THE BUGS

Pest Control is one of the most important steps in successful gardening. Yet, too often, the home gardener overlooks the importance of a steady complete program of spraying or dusting, and unhealthy plants result.

Damage caused by insects, disease and destructive animals must be prevented. This does not require a lot of costly equipment, nor a whole cupboard full of materials. Science has stepped into your garden and developed several general products which, when applied correctly, will control the majority of your garden pests.

There are two main types of insects, which may be classified as "Chewing" and "Sucking." It generally is not necessary to identify the pest to prevent their damage. With the proper combination of various chemicals, multi-purpose treatments can be made to control many different pests with the same application. However, the following information is given to assist you in diagnosing the damage in your garden.

**CHEWING INSECTS:** When you come across leaves which seem to have been eaten away in part, or entirely; or roots, tubers, or any other part of the plant, with an eaten look, your garden is being visited by Chewing Insects. Some burrow into fruit and lay eggs there, while others tunnel into other parts of the plant.

Most of the chewing insects can be killed with a stomach poison, which they acquire at the time of eating leaves or other parts of the plant.

You will find that most of the chewing insects are varieties of beetles, caterpillars, grasshoppers and worms.

Rotenone, a discovery from South America, which is manufactured from the Daris Root, is the most effective material against chewing insects. Its action is that of paralyzing the insect. It is not poisonous to humans and pets. Therefore, it is safe to use at all times.

Other insecticides effective against chewing insects include Nicotine Sulphate, Arsenate of Lead, and Calcium Arsenate. However, these materials are toxic to humans and pets alike, and so are not so desirable for the home gardener.

**SUCKING INSECTS:** Sometimes you will shake a flower and many specks like pepper will fall out of it, or you may see a leaf, unnaturally curled and sticky to touch. At other times a tiny insect will jump from a leaf if you disturb it.

You may see a cluster of things like minute barnacles, or little eggs, clinging to a stem or twig. You may not see any actual insect, but only a strange yellowing of the leaves, tender young leaves stunted and curling, distorted buds, discoloring of the plant, etc.

When you notice any of these signs, the trouble is some sucking insect. None do all of these things. Each has a specialty. The most common of the sucking insects are the Aphids, or plant lice, which in their common form, look like small light green barnacles or bumps, generally crusted on the underside of the leaves or blossoms. There are, however, a number of types of Aphids, and quite often they take on a different color.

Because these insects derive their food from the plant by means of puncturing the stem or leaves with small needle-like instruments, and sucking the juice from within the plant, stomach poisons such as Arsenate of Lead are not effective. They are controlled by a contact insecticide, such as Pyrethrum, which is a distilled product from the blooms of the Pyrethrum plant. This material works very quickly and paralyzes the insect.

Most sucking insects multiply with great rapidity. Therefore, it is necessary to make an application of insecticide every three or four days during the early summer season, when they are most prevalent.

The third type of common garden pest is classified as "Night Feeders." The most common in this category is the garden slug, which can completely devour a number of tender young plants in a single night.

These pests are easily controlled with the application of small piles of metaldehyde bait throughout your garden. This material has a strong attraction to slugs and they prefer it to tender foliage. You will find dead and dying pests around the various piles each morning. If once they come in contact with the material, they will not live to do further damage to your garden.

# INDEX

**PLANT DISEASES:** Many times plants and shrubs are attacked with fungus diseases, which give no indication of the trouble until the condition has reached a serious stage. This is especially true in the Western section of Oregon and Washington where there is an abundance of moisture.

A good gardener takes steps to prevent fungus from getting a start in his garden, rather than waiting until the disease shows up, as once it becomes established, it is almost an impossibility to overcome the damage until the following season. Therefore, it is advisable to mix fungicide with your insecticide and apply the two materials at the same time. This is particularly true in the case of rose bushes, which are susceptible to Black Spot, and Snapdragons which are often attacked by rust.

Bacterial diseases are prevalent when the leaves, twigs, or branches die in an unaccountable manner. They may be attacked by some bacterial disease, or blight. Potatoes, tomatoes, and celery so attacked may sometimes be controlled with Bordeaux mixture. However, peaches and walnuts are probably doomed for that season. Fruit trees should be protected against such diseases by dormant spraying in the winter and early spring before blossoms and foliage come out. More complete information can be given by your garden supply dealer. It is a good idea to talk these problems over with him at the start of the spring season.

## INDIVIDUAL GREENHOUSES

Manufactured devices for the protection of tender seedlings are of great value to the home gardener, not only for protection against frost, but against the hazards of rain, insects, and drying out of seed beds.

Commercial growers of tomatoes, melons, cucumbers, etc., have used wax paper cones, known as Hotkaps, to protect early plantings of tender vegetables. These Hotkaps are now available in small home garden units at your garden supply dealer. Since they are not expensive, and can be used for more than one crop, the home gardener should use them generously. They will give you earlier crops of vegetables by keeping the soil warm and moist during the early spring growing season. Another product designed to make the home gardener's work easier and improve the results of his effort.

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# YOUR LAWN IS PART OF THE PICTURE



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